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MATHS MATE
Skill Builder

first edition

J. B. Wright

Digital - PDF Format

SCHOOL LICENCE

MATHS MATE 3/4 Skill Builder

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Material available for use in the Maths Mate Program

STUDENT PADS - Hard Copy/Digital (with bonus Skill Builder)
Maths Mate 3 Student Pad - 1st Ed.
Maths Mate 4 Student Pad - 1st Ed.
Maths Mate 5 Student Pad - 3rd Ed.
Maths Mate 6 Student Pad - 3rd Ed.
Maths Mate 7 Student Pad - 4th Ed.
Maths Mate 8 Student Pad - 4th Ed.
Maths Mate 9 Student Pad - 4th Ed.
Maths Mate 9 Gold Student Pad - 2nd Ed.
Maths Mate 10 Student Pad - 4th Ed.
Maths Mate 10 Gold Student Pad - 2nd Ed.

SKILL BUILDERS - Digital
Maths Mate 3/4 Skill Builder - 1st Ed.
Maths Mate 5/6 Skill Builder - 3rd Ed.
Maths Mate 7/8 Skill Builder - 3rd Ed.
Maths Mate 9/10 Skill Builder - 3rd Ed.

TEACHER RESOURCES
Maths Mate Teacher Resource CD - Version 3.0 (covers all Teacher Resource Books)
Maths Mate 3 Teacher Resource Book - 1st Ed.
Maths Mate 4 Teacher Resource Book - 1st Ed.
Maths Mate 5 Teacher Resource Book - 3rd Ed.
Maths Mate 6 Teacher Resource Book - 3rd Ed.
Maths Mate 7 Teacher Resource Book - 4th Ed.
Maths Mate 8 Teacher Resource Book - 4th Ed.
Maths Mate 9 Teacher Resource Book - 4th Ed.
Maths Mate 9 Gold Teacher Resource Book - 2nd Ed.
Maths Mate 10 Teacher Resource Book - 4th Ed.
Maths Mate 10 Gold Teacher Resource Book - 2nd Ed.

TEACHER'S GUIDE

FORWARD

Why use Skill Builders?

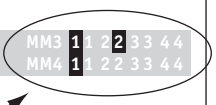
Too often, through the teaching, learning and assessment process, teachers identify weaknesses and gaps in student learning but the constraints of the classroom severely limit remediation opportunities.

The Maths Mate Skill Builder series was prepared in response to requests from teachers and parents who want an easy but effective way to help students who identify skill deficiencies using the Maths Mate Program, and are motivated to do something about them.

The Maths Mate record keeping sheets found at the start of each term in each Student Pad (and on each CD ~ Record Keeping Sheets, pages 1 to 4) enable students to find out what they know and what they still need to learn and practise.

The Skill Builders extensively target through instruction and practice, all skills within the related Maths Mate Program except the problem solving questions. The Problem Solving Hints & Solutions (see CD ~ Problem Solving Hints & Solutions) can be used by teachers to develop students' problem solving skills. The Skill Builders also contain a Glossary of important facts and reference material that will provide instant help when students present with difficulties.

Background to the design of Maths Mate and Skill Builders



Any question on the Maths Mate sheets is part of a set of 4 similar questions in the term. For example, consider sheets 1, 2, 3 and 4 in year 3 term 1. Question 10 on each sheet is similar in design, content and degree of difficulty. This grouping of question style is also true of the next set of four sheets and so on. Thus the Maths Mate tests made available in the Teacher Resource Book and CD (see CD ~ Test Masters, pages 1 to 32 and Test Answers, pages 1 to 32) also reflect this grouping of question style and substance. Generally too, the Skill Builders can be linked to each set of 4 similar questions. These links are identified in the grid at the title of each skill. The grid shown here for example, would relate a skill to questions in the first 4 sheets of MM3 term 1, the last 4 sheets of MM3 term 2 and the first 4 sheets of MM4 term 1. Once understood, these links will be helpful to students in their selection of Skill Builders and to you in your allocation of Skill Builders to students.

On each Maths Mate worksheet, questions 1 through to 21 get progressively harder. (Refer - How to use the Skill Builders, page iv)

Suggestions for the preparation and organisation of Skill Builders

Teachers can either direct students to their digital copies or print copies of particular pages for students. Rather than photocopying Skill Builders one at a time, you may find it helpful to set up a file in a central area that contains perhaps five copies of each Skill Builder. In this way you will save time and be prepared in advance. Students should be reminded that the Glossary is a valuable resource that can be added to. The Glossary too can be photocopied for students as a resource.

How you can help

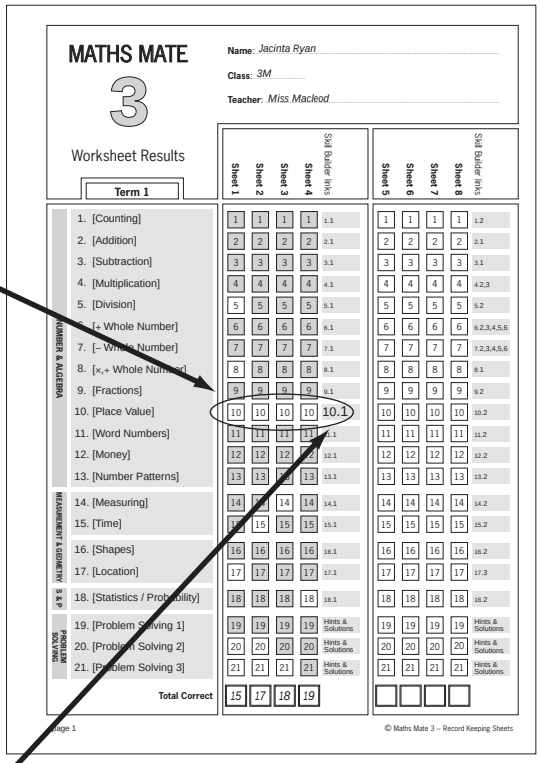
We are confident that your students will be rewarded for the effort you have made in making these worksheets available to them. As with any program, however, there is always room for improvement and we place great value in feedback from people like yourself. Please, if you have any suggestions at all, contact us.

HOW TO USE MATHS MATE SKILL BUILDERS

1. Determine which Maths Mate questions pose a difficulty

If a student gets one or more incorrect answers, represented by one or more successive unshaded boxes on their worksheet results sheet, then that question requires a Skill Builder.

For example, question 10 in Sheets 1, 2, 3 and 4 is not shaded, so Skill 10.1 from Skill Builder 10 needs to be handed to the student.



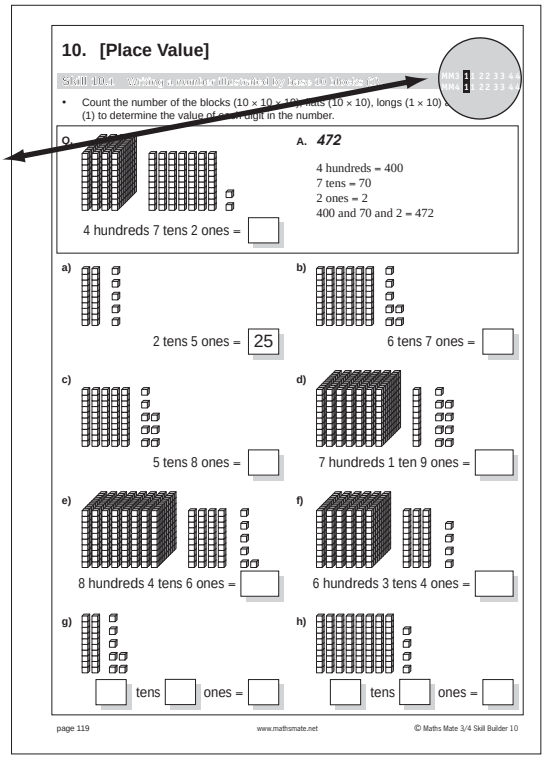
2. Find the relevant Skill Builder on the Maths Mate worksheet results sheet

Check across the question that is posing difficulties on the worksheet results sheet to find the list of skills within the Skill Builder that are most relevant to that question.

Obtain a copy of one or all of the skills listed for that question (pages 1 to 234). You can also double check with the grid at the right of each skill title, that the chosen skill is appropriate.

Remember, students should work through the skills in order. The skills where possible are arranged in increasing degree of difficulty.

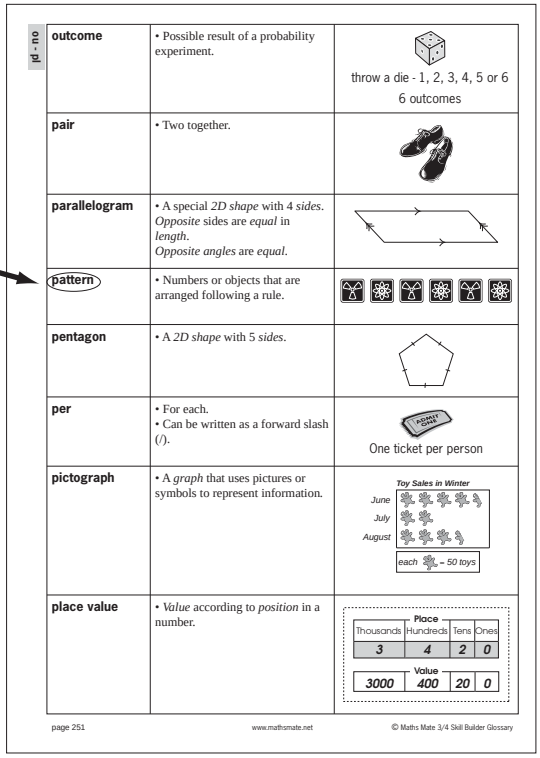
Be aware that some skills may require the knowledge of previous skills, so when a student has several areas of weakness, they should work on the lowest numbered skill builders first. For example, a student struggling with Q8 and Q5 will need to build skills required for Q5 before they can improve Q8.



3. Look up any unknown terms in the Skill Builder Glossary

The Glossary (pages 235 to 262) is more than just a list of definitions. It contains a wealth of relevant information that may help the students to better understand the question at hand. Weaker students may find that referring to a copy of the Glossary, and even building on it, is a helpful strategy for improving their overall mathematical competency.

For example, a student might need to look up the word "pattern" before attempting to complete Skill 13.1



outcome	• Possible result of a probability experiment.	throw a die - 1, 2, 3, 4, 5 or 6 6 outcomes
pair	• Two together.	
parallelogram	• A special *2D shape* with 4 *sides*. *Opposite* sides are *equal* in *length*. *Opposite angles* are *equal*.	
pattern	• Numbers or objects that are arranged following a rule.	
pentagon	• A *2D shape* with 5 *sides*.	
per	• For each. • Can be written as a forward slash (/).	ONE TICKET PER PERSON One ticket per person
pictograph	• A *graph* that uses pictures or symbols to represent information.	Toy Sales in Winter June July August each = 50 toys
place value	• *Value* according to *position* in a number.	Place: Thousands, Hundreds, Tens, Ones 3, 4, 2, 0 Value: 3000, 400, 20, 0

page 251 www.mathsmate.net © Maths Mate 3/4 Skill Builder Glossary

4. Complete the relevant Skill Builder

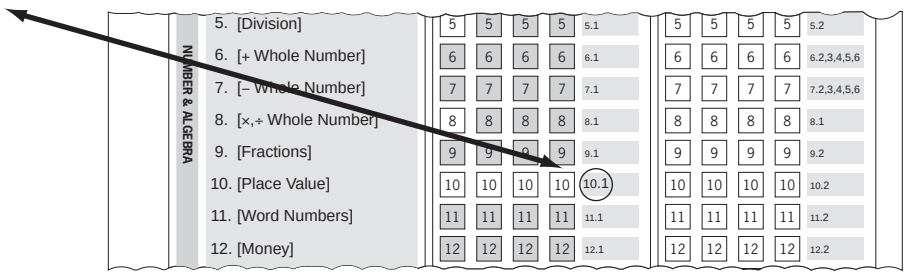
Work through the examples given for that skill, and complete the exercises.

There are many techniques or methods that can be used to teach the same basic skills, even something as simple as adding 7 and 9. It is good for a student to be given a range of alternatives appropriate for each skill but space restrictions make this impossible. These sheets often suggest an approach that may be different to a student's past experience. If a student feels more comfortable with his current technique, that is fine. In most cases it is the end result that counts.

It is possible to take a very weak student back to a Skill Builder from a lower level if this is necessary. It is also possible to use a higher level book for students to have further practice if required.

5. Correct the relevant Skill Builders from the Skill Builder answer sheets (from page 273)

6. Circle the completed skill numbers on the Maths Mate worksheet results sheet



NUMBER & ALGEBRA

5. [Division]	5	5	5	5	5.1	5	5	5	5	5.2
6. [+ Whole Number]	6	6	6	6	6.1	6	6	6	6	6.2,3,4,5,6
7. [– Whole Number]	7	7	7	7	7.1	7	7	7	7	7.2,3,4,5,6
8. [×,÷ Whole Number]	8	8	8	8	8.1	8	8	8	8	8.1
9. [Fractions]	9	9	9	9	9.1	9	9	9	9	9.2
10. [Place Value]	10	10	10	10	10.1	10	10	10	10	10.2
11. [Word Numbers]	11	11	11	11	11.1	11	11	11	11	11.2
12. [Money]	12	12	12	12	12.1	12	12	12	12	12.2

7. Go back and repeat previous Maths Mate questions

After completing a Skill Builder, students should be encouraged to go back and attempt again those particular questions on the recently completed Maths Mate worksheets.

Dear Parents

As part of their Mathematics program this year, all students have been given a weekly Maths Mate worksheet.

The program is now under way. The diagnostic nature of the worksheets helps students monitor their own progress. After they correct their worksheet and complete the record keeping sheet, over time, your child will be able to identify areas of strength and weakness in their mathematical learning.

If your child is having difficulty with a question for consecutive weeks or believes that their understanding is not at the level they would like, then Skill Builder sheets will be made available to develop each of the skills in the Maths Mate program. Each Skill Builder focuses on and explores, one question from the Maths Mate worksheets. Your child is encouraged to make full use of these resources by taking home any sheet that will help consolidate their understanding of a particular skill. Or, for your convenience, all worksheets are available on our website. Simply go to **www.mathsmate.net** and follow the prompts to download the appropriate Skill Builder.

As each question in the Maths Mate is generally more difficult than the last, finishing with the problem solving questions, then it would be advised that, if students are concerned with more than one question, they tackle lower numbered questions first.

The Skill Builders may also help to motivate students to make another attempt at mastering skills that they have found too difficult in the past, given that it will become clear to them that they will be confronted by the same type of question on a regular basis.

While we will be monitoring your child's progress and supporting their skill development in the school environment, it would be appreciated if you would complete the tear off slip at the bottom of this page so that we can be sure that you are aware of our expectations regarding both the Maths Mate worksheets and the availability of Skill Builder worksheets. We ask also that you continue to sign the completed worksheets each week so that we can ensure each student is working independently and regularly but with your support.

We thank you in anticipation of your involvement and remind you that you are encouraged to call and discuss your child's progress at any time.

Yours sincerely

Class Teacher

Principal

✂ -

Maths Mate Program - Skill Builder Return Slip

Student's Name: .... Class: ....

As a parent / guardian I have signed this form to indicate that I am aware of the support Maths Mate Skill Builders can give my child in their mathematical development.

Parent's Signature: .... Date: ....

CONTENTS

MM Question	SB Skill No.	[Maths Mate - Mathematical strand] Skill Builder - Skill description

MM Question	SB Skill No.	[Maths Mate - Mathematical strand] Skill Builder - Skill description

MM Question	SB Skill No.	[Maths Mate - Mathematical strand] Skill Builder - Skill description

1. [Counting]

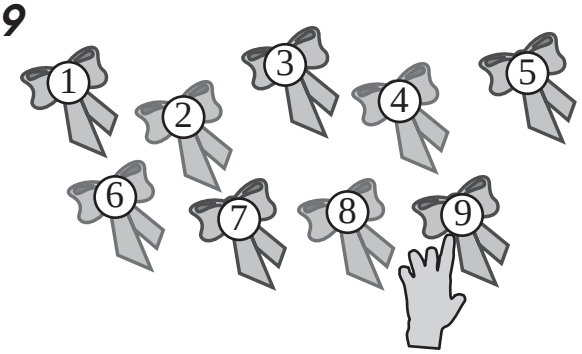
Skill 1.1 Counting objects.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

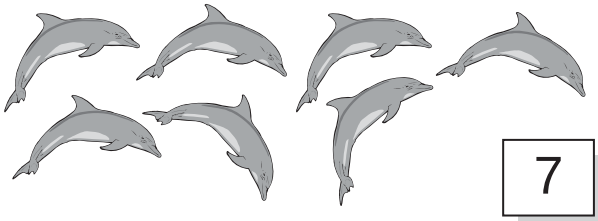
- Decide on a movement e.g. left to right / top row first.
- Touch each object.
- Count out loud.

Q. How many bows are there?

A. *9*



a) How many dolphins are there?



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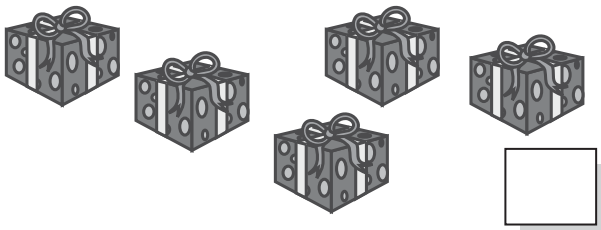
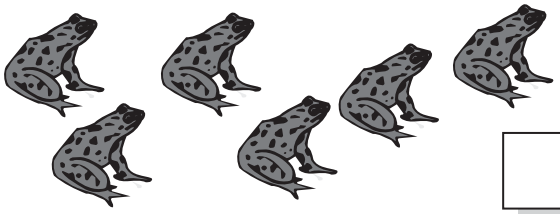
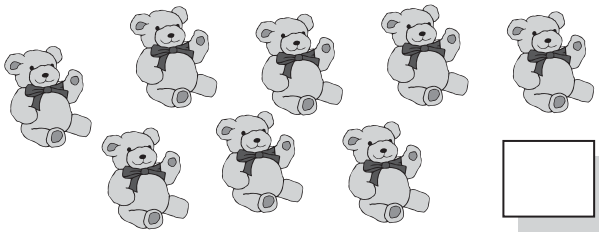
b) How many presents are there?



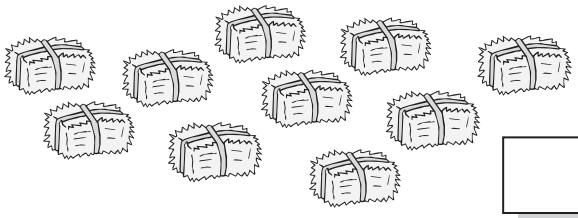
c) How many frogs are there?



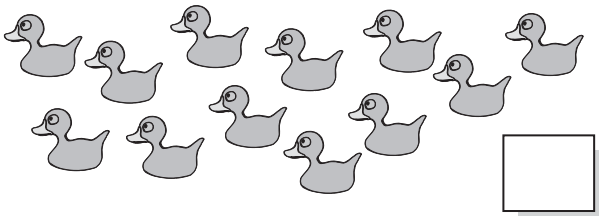
d) How many teddies are there?



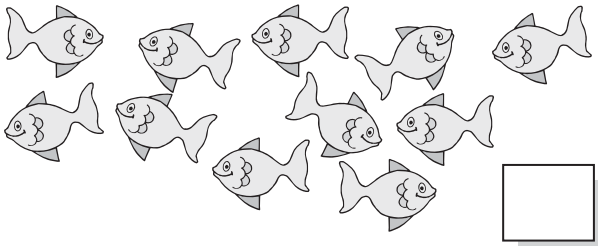
e) How many hay bales are there?



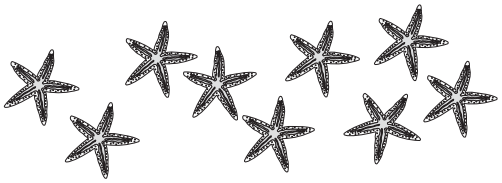
f) How many ducks are there?



g) How many fish are there?



h) How many starfish are there?



Skill 1.2 Investigating number sequences by finding numbers before and after a number.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

After the number
- Count on once.

Before the number
- Think of a smaller number and count on.

Q. Write the numbers before and after 26.

	26	

A. ***25*** *26* ***27***

Count on:
26, 27, 28 ...
Count on:
23, 24, 25, 26 ...

a) Write the numbers before and after 13.

12	13	14

b) Write the numbers before and after 23.

	23	

c) Write the numbers before and after 44.

	44	

d) Write the numbers before and after 38.

	38	

e) Write the numbers before and after 51.

	51	

f) Write the numbers before and after 69.

	69	

g) Write the numbers before and after 72.

	72	

h) Write the numbers before and after 90.

	90	

i) Write the numbers before and after 18.

	18	

j) Write the numbers before and after 55.

	55	

k) Write the numbers before and after 121.

	121	

l) Write the numbers before and after 170.

	170	

m) Write the numbers before and after 127.

	127	

n) Write the numbers before and after 636.

	636	

Skill 1.3 Counting forwards and backwards by 1s.

Q. Count backwards from 43.

43	42				

A. *43 42* ***41 40 39 38***

a) Count on from 28.

28	29	30	31	32	33

b) Count on from 7.

7	8				

c) Count backwards from 9.

9	8				

d) Count on from 18.

18	19				

e) Count on from 76.

76	77				

f) Count backwards from 15.

15	14				

g) Count on from 43.

43	44				

h) Count backwards from 94.

94	93				

i) Count backwards from 304.

304				

j) Count on from 200.

200				

k) Count on from 189.

189				

l) Count backwards from 789.

789				

m) Count on from 1005.

1005			

n) Count on from 5925.

5925			

Skill 1.4 Counting forwards by 2s, 3s, 4s and 5s.

Q. When counting by 3s, what is the next number?

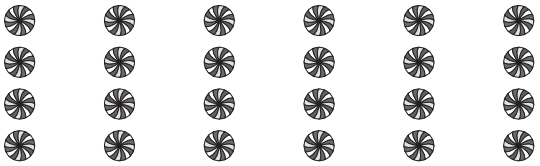
3 , 6 , 9 , 12 , 15 , 18 , ☐

A. ***21***

a) Count by 2s.

2	4	6	8	10

b) Count by 4s.



4	8				

c) When counting by 2s, what is the next number?

2 , 4 , 6 , 8 , 10 , 12 , 14 , ☐

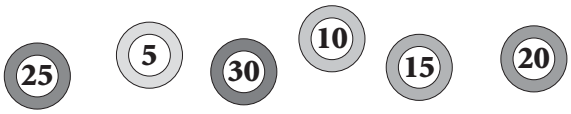
d) When counting by 5s, what is the next number?

5 , 10 , 15 , 20 , 25 , 30 , ☐

e) Use the hearts to show counting by 3s.

3					

f) Use the balls to show counting by 5s.

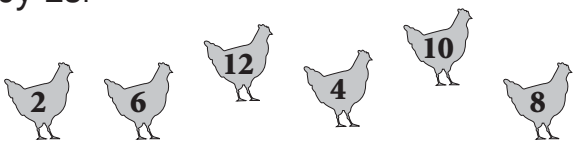


5					

g) Use the bells to show counting by 4s.

4					

h) Use the hens to show counting by 2s.



2					

i) Count by 5s.

5					

j) Count by 3s.

3					

Skill 1.5 Counting forwards by 6s, 7s, 8s and 9s.

Q. Count by 6s.

6	12				

A. *6 12* ***18 24 30 36***

a) When counting by 9s, what is the next number?

9 , 18 , 27 , 36 , 45 , 54 , 63

b) When counting by 7s, what is the next number?

7 , 14 , 21 , 28 , 35 , 42 , ☐

c) When counting by 8s, what is the next number?

8 , 16 , 24 , 32 , 40 , 48 , ☐

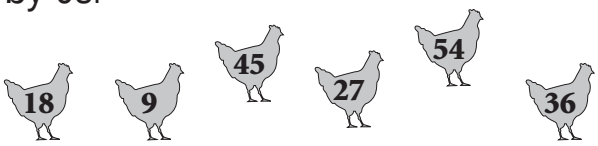
d) When counting by 6s, what is the next number?

6 , 12 , 18 , 24 , 30 , 36 , ☐

e) Use the bells to show counting by 6s.

6					

f) Use the hens to show counting by 9s.

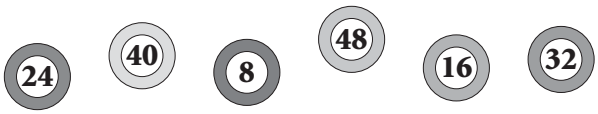


9					

g) Use the hearts to show counting by 7s.

7					

h) Use the balls to show counting by 8s.



8					

i) Count by 9s.

9	18				

j) Count by 7s.

7	14				

k) Count by 8s.

8	16				

l) Count by 6s.

6	12				

Skill 1.6 Counting forwards and backwards by 10s.

Hint: When you count by 10s the last digit stays the same.

Q. Count forwards by 10s.

19	29				

A. *19 29* ***39 49 59 69***

a) Count backwards by 10s.

68	58	48	38	28	18

b) Count forwards by 10s.

10	20				

c) Count forwards by 10s.

43	53				

d) Count backwards by 10s.

57	47				

e) Count forwards by 10s.

22	32				

f) Count backwards by 10s.

60	50				

g) Count forwards by 10s.

18	28				

h) Count backwards by 10s.

99	89				

i) Count forwards by 10s.

800				

j) Count forwards by 10s.

112				

k) Count backwards by 10s.

560				

l) Count forwards by 10s.

302				

m) Count forwards by 10s.

2530			

n) Count forwards by 10s.

1010			

Skill 1.7 Investigating number sequences by skip counting.

- Find the amount added to get from one number to the next number.
- Add that amount to continue the pattern.

Q. Complete the skip counting pattern.

33 36 ☐ 42 45 ☐ 51 ☐

A. *33 36* ***39*** *42 45* ***48*** *51* ***54***

3 is added to 33 to get to 36,
so add 3 to 36 to get 39.
Continue adding 3.

a) Complete the skip counting pattern.

15 20 25 30 35 40 45

b) Complete the skip counting pattern.

6 8 ☐ 12 ☐ 16 ☐

c) Complete the skip counting pattern.

110 ☐ 130 ☐ 150 ☐

d) Complete the skip counting pattern.

40 44 48 ☐ ☐ 60 ☐ 68

e) Complete the skip counting pattern.

250 ☐ ☐ 280 290 ☐

f) Complete the skip counting pattern.

21 24 ☐ 30 ☐ 36 ☐ 42

g) Complete the skip counting pattern.

4 8 12 ☐ 20 ☐ 28 ☐

h) Complete the skip counting pattern.

4 6 ☐ ☐ ☐ ☐ 16

i) Complete the skip counting pattern.

10 20 ☐ ☐ 50 ☐ ☐

j) Complete the skip counting pattern.

46 48 50 ☐ 54 ☐ ☐ 60

k) Complete the skip counting pattern.

25 30 ☐ 40 45 ☐ 55 ☐

l) Complete the skip counting pattern.

36 39 ☐ 45 ☐ ☐ 54

Skill 1.8 Counting forwards by numbers from 1 to 9 from a larger number.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

Q. Count on by 7s from 35.

35					

A. *35* ***42 49 56 63 70***

a) Count on by 4s from 4.

4	8	12	16	20	24

b) Count on by 3s from 6.

6					

c) Count on by 4s from 12.

12					

d) Count on by 3s from 15.

15					

e) Count on by 5s from 20.

20					

f) Count on by 2s from 28.

28					

g) Count on by 3s from 33.

33					

h) Count on by 5s from 50.

50					

i) Count on by 4s from 20.

20					

j) Count on by 2s from 50.

50					

k) Count on by 8s from 16.

16					

l) Count on by 9s from 18.

18					

m) Count on by 6s from 18.

18					

n) Count on by 7s from 14.

14					

Skill 1.9 Recognising odd and even numbers (1).

Even numbers
- Consider the last digit.
  It must be 0, 2, 4, 6, 8.

Odd numbers
- Consider the last digit.
  It must be 1, 3, 5, 7, 9.

Q. Which of these numbers is odd?
8 , 104 , 96 , 52 , 39 , 50

A. ***39***

39 is the only number that ends in a 1, 3, 5, 7 or a 9 so it is odd.
8 , 104 , 96 , 52 and 50
all end in either
0, 2, 4, 6 or 8, so they are all even.

a) Circle the even numbers.

55 (10) (48) 35 (26) 61 107

b) Circle the even numbers.

22 13 17 45 29 41 110

c) Circle the odd numbers.

174 20 52 35 18 81 304

d) Circle the odd numbers.

22 14 37 82 16 93 138

e) Circle the odd numbers.

124 83 27 92 16 108 20

f) Circle the even numbers.

135 24 56 97 19 21 78

g) Which of these numbers is even?
18 , 7 , 99 , 145 , 87 , 23

h) Which of these numbers is odd?
8 , 104 , 96 , 52 , 47 , 50

i) Which of these numbers is odd?
16 , 98 , 114 , 22 , 30 , 41

j) Which of these numbers is even?
25 , 76 , 39 , 207 , 49 , 81

k) Which of these numbers is odd?
24 , 56 , 18 , 92 , 33 , 100

l) Which of these numbers is even?
15 , 113 , 27 , 69 , 51 , 94

Skill 1.9 Recognising odd and even numbers (2).

m) Is the sum of 6 and 4 an odd or an even number?

n) Is the sum of 5 and 2 an odd or an even number?

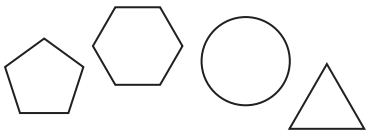
o) Is the sum of 4 and 1 an odd or an even number?

p) Is the sum of 3 and 2 an odd or an even number?

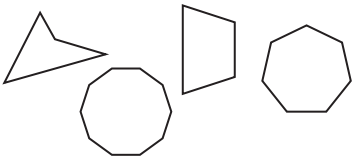
q) Is the sum of 5 and 3 an odd or an even number?

r) Is the sum of 6 and 3 an odd or an even number?

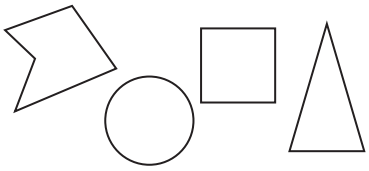
s) Redraw the shape with an even number of sides.



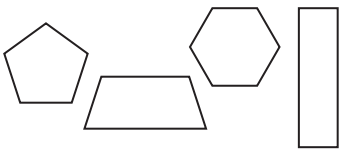
t) Redraw the shape with an odd number of sides.



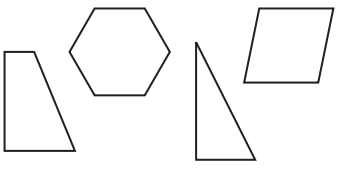
u) Redraw the shape with an even number of sides.



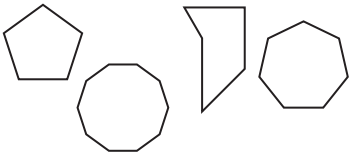
v) Redraw the shape with an odd number of sides.



w) Redraw the shape with an odd number of sides.



x) Redraw the shape with an even number of sides.



Skill 1.10 Counting forwards and backwards by a number greater than 1, from a larger number.

- Count forwards or backwards by 1s.

Q. Start at 23. Count backward 5.

A. ***18***

Count backward 5 by 1s:
23, 22, 21, 20, 19, 18

1 2 3 4 5

a) Start at 15. Count forward 8.

23

b) Start at 12. Count forward 7.

c) Start at 24. Count backward 5.

d) Start at 36. Count backward 5.

e) Start at 34. Count forward 6.

f) Start at 64. Count forward 7.

g) Start at 25. Count backward 4.

h) Start at 45. Count backward 8.

i) Start at 69. Count forward 8.

j) Start at 91. Count backward 6.

k) Start at 119. Count backward 9.

l) Start at 135. Count forward 6.

m) Start at 195. Count forward 8.

n) Start at 203. Count backward 7.

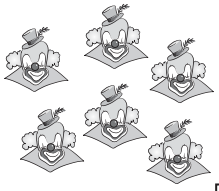
2. [Addition]

Skill 2.1 Adding the numbers from 1 to 10 represented by pictures, by counting on (1).

MM3 11 22 33 44
MM4 11 22 33 44

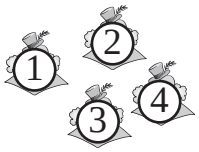
- Count all the objects in both groups to complete the addition.

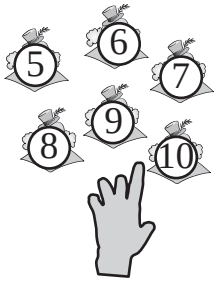
Q. Complete the addition.


plus


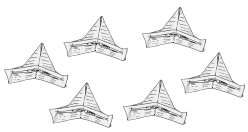
4 + 6 = ☐

A. *4 + 6 =* ***10***



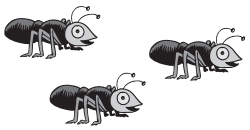
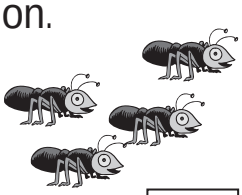
plus


a) Complete the addition.


plus


5 + 6 = 11

b) Complete the addition.


plus


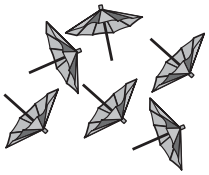
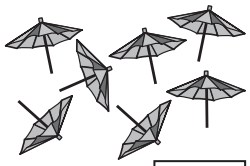
3 + 4 = ☐

c) Complete the addition.


plus

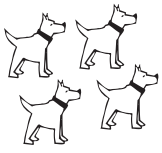
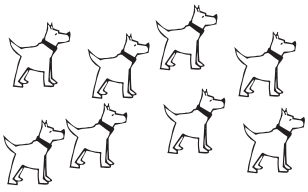

5 + 5 = ☐

d) Complete the addition.


plus


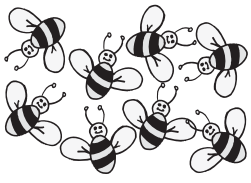
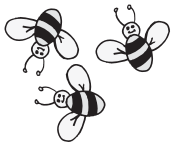
6 + 7 = ☐

e) Complete the addition.


plus


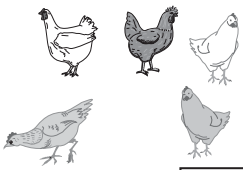
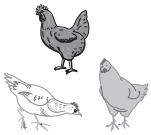
4 + 8 = ☐

f) Complete the addition.


plus


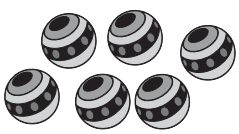
8 + 3 = ☐

g) Complete the addition.


plus


☐ + ☐ = ☐

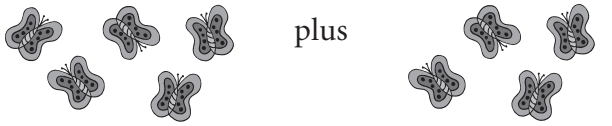
h) Complete the addition.


plus


☐ + ☐ = ☐

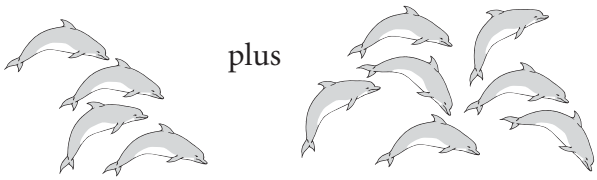
Skill 2.1 Adding the numbers from 1 to 10 represented by pictures, by counting on (2).

i) Complete the addition.



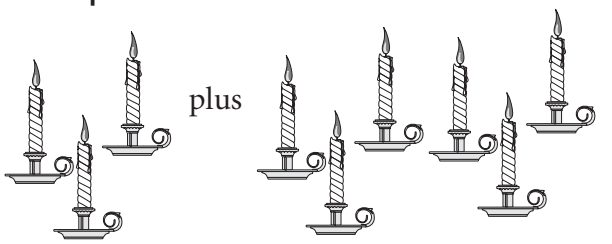
□ + □ = □

j) Complete the addition.



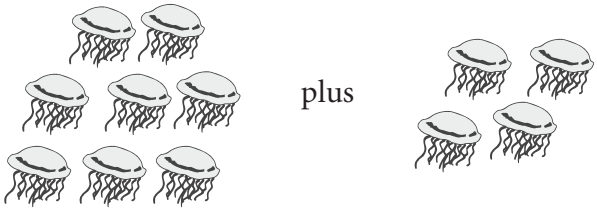
□ + □ = □

k) Complete the addition.



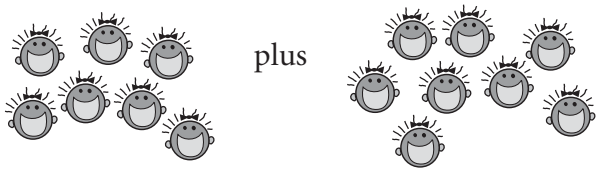
□ + □ = □

l) Complete the addition.



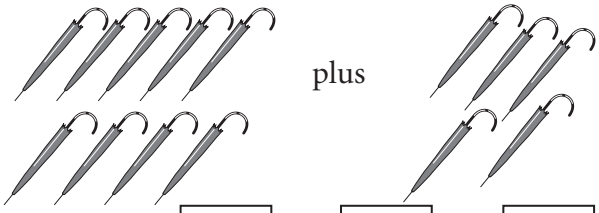
□ + □ = □

m) Complete the addition.



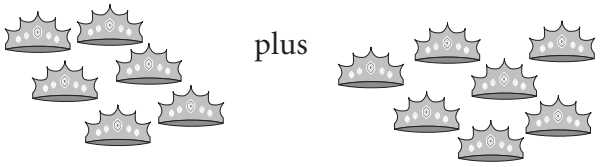
□ + □ = □

n) Complete the addition.



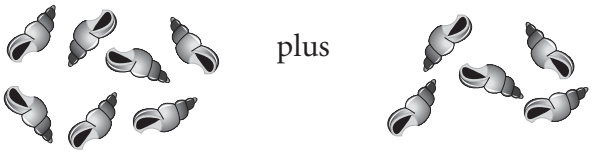
□ + □ = □

o) Complete the addition.



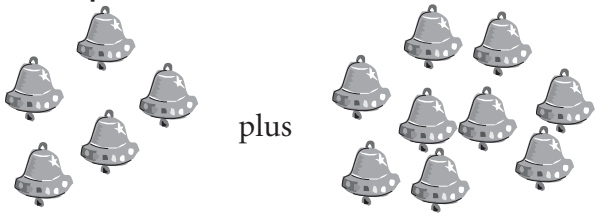
□ + □ = □

p) Complete the addition.



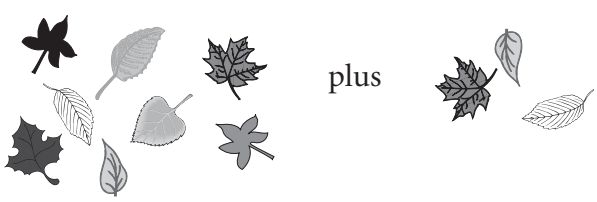
□ + □ = □

q) Complete the addition.



□ + □ = □

r) Complete the addition.

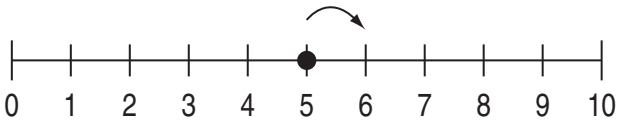


□ + □ = □

Skill 2.2 Adding the numbers from 1 to 10 by counting forwards on a number line.

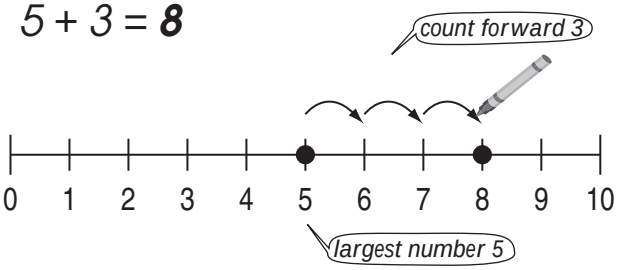
- Mark the largest number in the sum on the number line.
- Use your pencil to count forwards the smallest number.

Q.

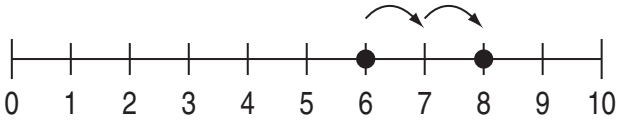


5 + 3 = ☐

A. *5 + 3 =* ***8***

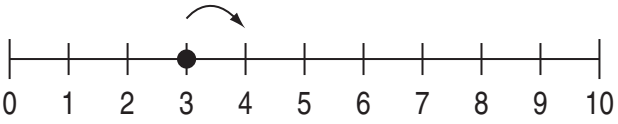


a)



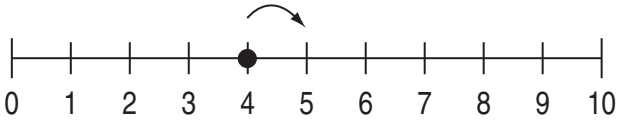
6 + 2 = 8

b)



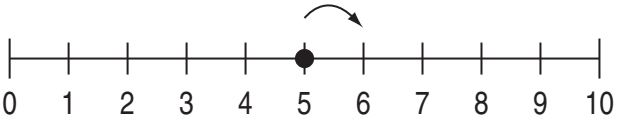
3 + 3 = ☐

c)



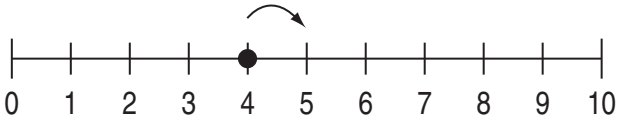
2 + 4 = ☐

d)



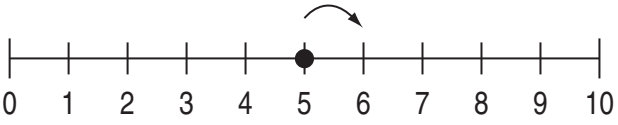
5 + 4 = ☐

e)



4 + 3 = ☐

f)

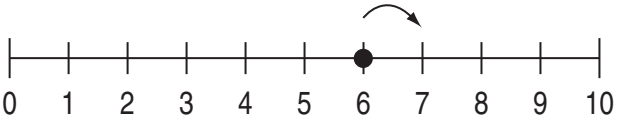


2 + 5 = ☐

g)

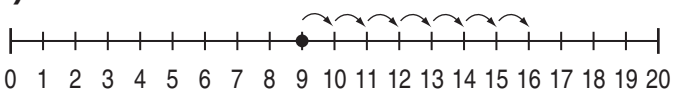
2 + 6 = ☐

h)



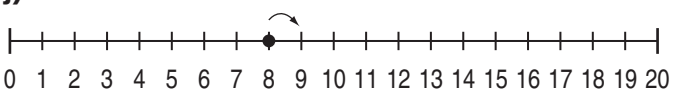
6 + 4 = ☐

i)



7 + 9 = ☐

j)



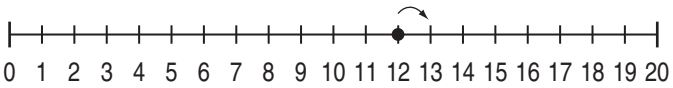
8 + 6 = ☐

Skill 2.3 Adding the numbers from 1 to 20 by counting forwards on a number line.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

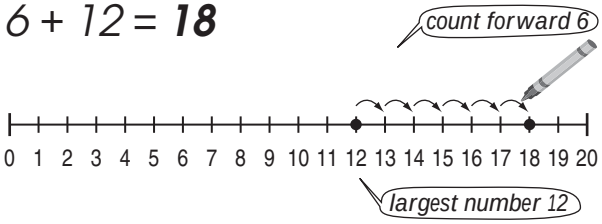
- Mark the largest number in the sum on the number line.
- Use your pencil to count forwards the smallest number.

Q.

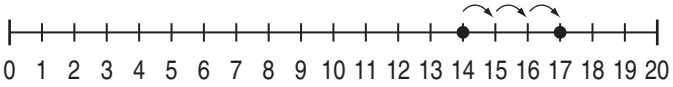


6 + 12 = ☐

A. *6 + 12 =* ***18***

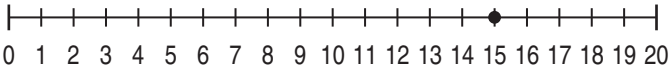


a)



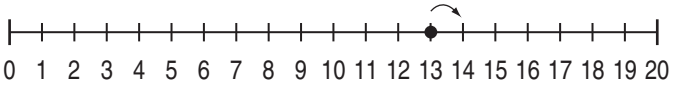
14 + 3 = 17

b)



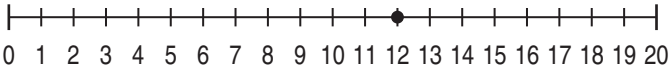
5 + 15 = ☐

c)



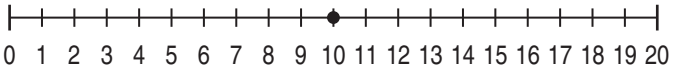
5 + 13 = ☐

d)



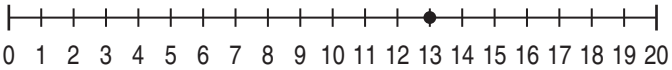
12 + 4 = ☐

e)



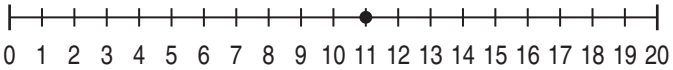
10 + 8 = ☐

f)



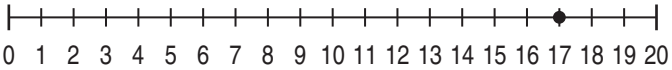
4 + 13 = ☐

g)



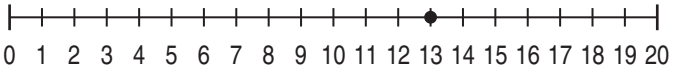
5 + 11 = ☐

h)



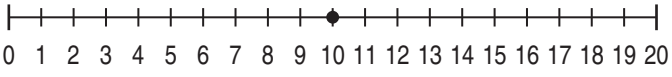
2 + 17 = ☐

i)



7 + 13 = ☐

j)



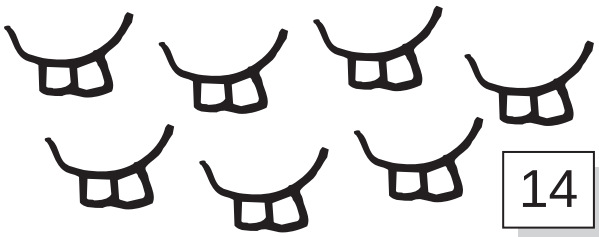
10 + 9 = ☐

Skill 2.4 Adding by counting by 2s, 3s, 4s, 5s and 10s, represented by pictures.

Q. Use counting by 4s to find the total number of visible teeth.

A. *16*

a) Use counting by 2s to find the total number of buck teeth.

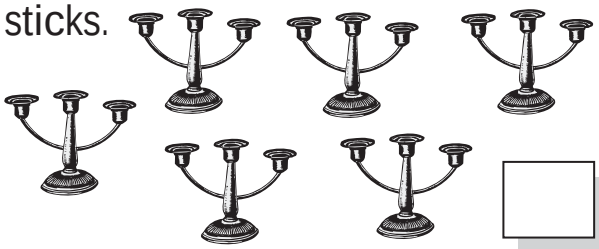


14

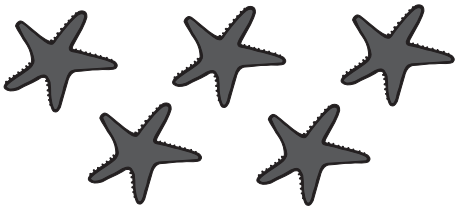
b) Use counting by 3s to find the total number of prongs.

c) Use counting by 4s to find the total number of chair legs.

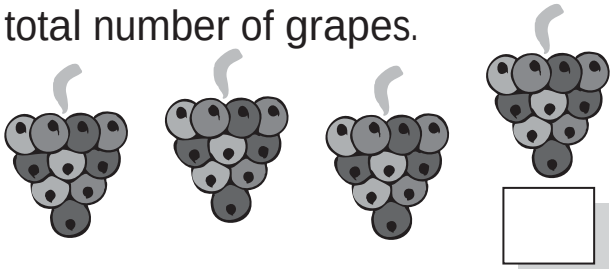
d) Use counting by 3s to find the total number of candles you would need to fill the candle sticks.



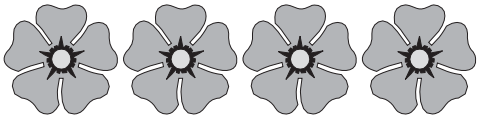
e) Use counting by 5s to find the total number of legs.



f) Use counting by 10s to find the total number of grapes.



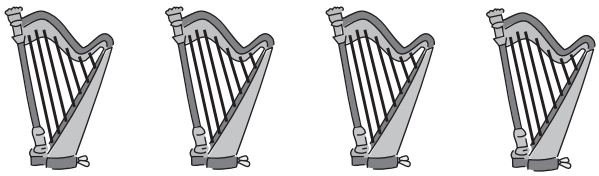
g) Use counting by 5s to find the total number of petals.



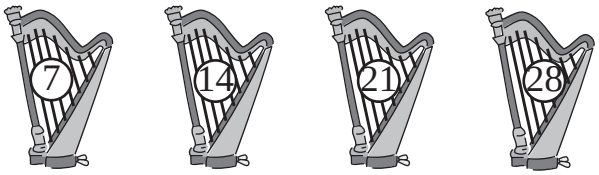
h) Use counting by 4s to find the total number of toes.

Skill 2.5 Adding by counting by 6s, 7s, 8s and 9s, represented by pictures.

Q. Use counting by 7s to find the total number of harp strings.



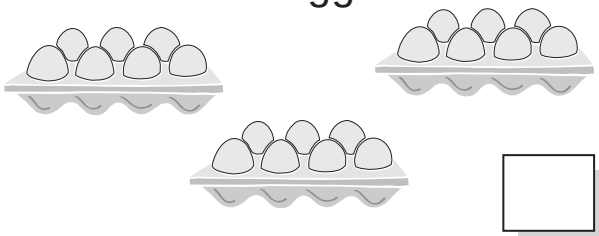
A. ***28***



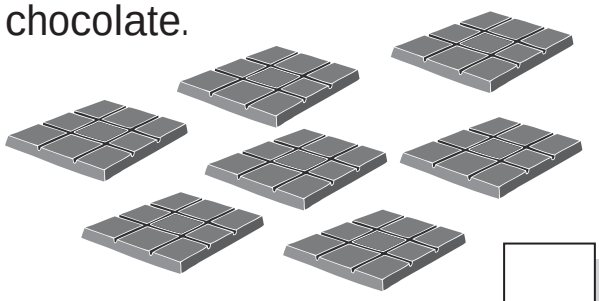
a) Use counting by 8s to find the total number of horse shoe nails.

32

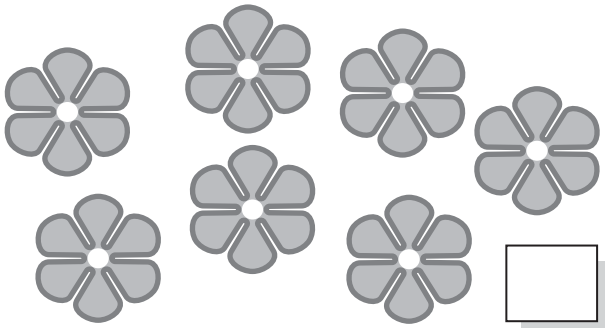
b) Use counting by 7s to find the total number of eggs.



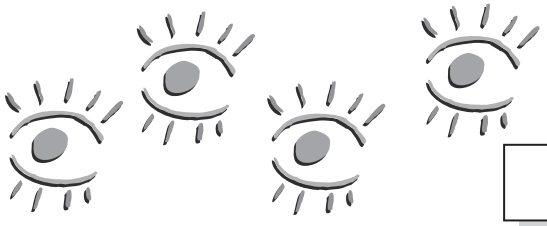
c) Use counting by 9s to find the total number of pieces of chocolate.



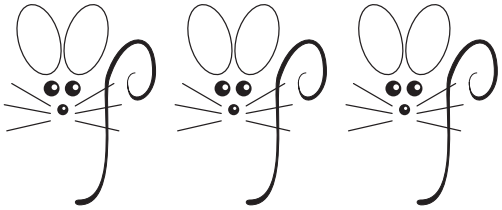
d) Use counting by 6s to find the total number of petals.



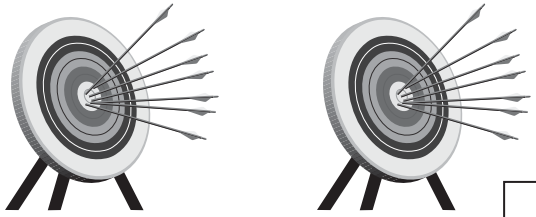
e) Use counting by 9s to find the total number of eyelashes.



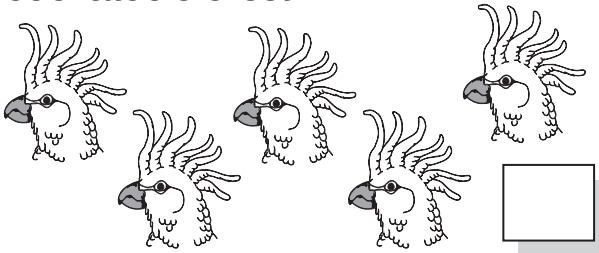
f) Use counting by 6s to find the total number of whiskers.



g) Use counting by 7s to find the total number of arrows.



h) Use counting by 7s to find the total number of rachis in the cockatoo's crest.



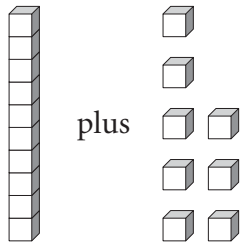
Skill 2.6 Adding 10 to a number by using base 10 blocks.

- Start from 10 and count forward the smallest number.

OR

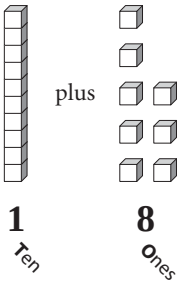
- To add 10 to a 1-digit number, put a 1 in the tens place and write the number in the ones place.

Q. Complete the addition.

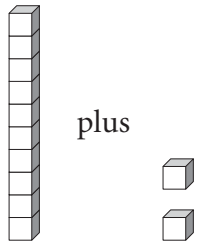


10 + 8 = ☐

A. *10 + 8 =* ***18***

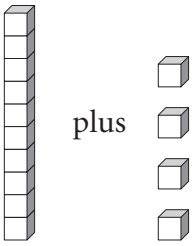


a) Complete the addition.



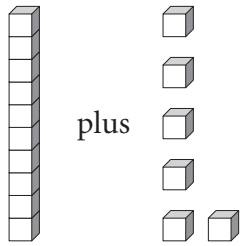
10 + 2 = 12

b) Complete the addition.



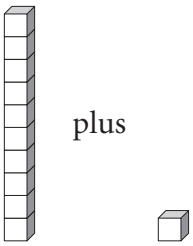
10 + 4 = ☐

c) Complete the addition.



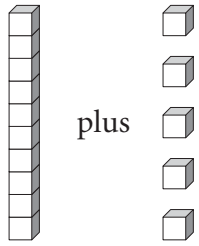
10 + 6 = ☐

d) Complete the addition.



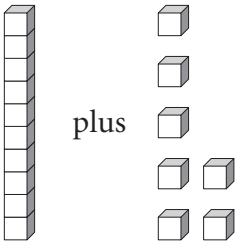
10 + 1 = ☐

e) Complete the addition.



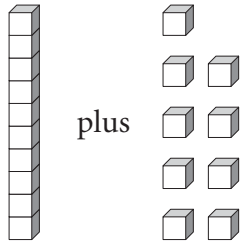
10 + 5 = ☐

f) Complete the addition.



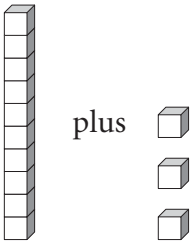
10 + 7 = ☐

g) Complete the addition.



10 + 9 = ☐

h) Complete the addition.



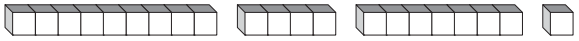
10 + 3 = ☐

Skill 2.7 Recognising pairs of numbers that add to 10.

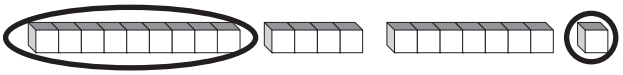
Numbers that add to 10:

0	1	2	3	4	5	6	7	8	9
10	9	8	7	6	5	4	3	2	1

Q. Circle two blocks that add to 10.

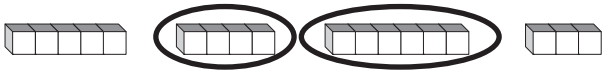


A.

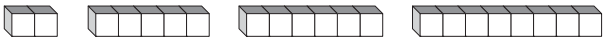


The blocks are in order, 9, 4, 7 and 1.
9 + 1 = 10

a) Circle two blocks that add to 10.

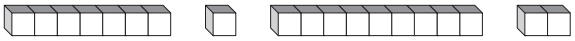


b) Circle two blocks that add to 10.



c) Circle two blocks that add to 10.

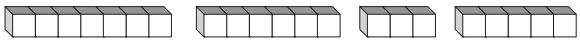
d) Circle two blocks that add to 10.



e) Circle two blocks that add to 10.

f) Circle two blocks that add to 10.

g) Circle two blocks that add to 10.



h) Circle two blocks that add to 10.

i) Draw lines to join pairs of numbers that add to 10.

2	5	1	7	4
3	6	9	5	8

j) Draw lines to join pairs of numbers that add to 10.

5	3	9	8	6
4	7	5	2	1

k) Draw lines to join pairs of numbers that add to 10.

7	4	5	2	1
6	9	3	8	5

l) Draw lines to join pairs of numbers that add to 10.

4	9	7	8	5
3	6	5	1	2

Skill 2.8 Recognising pairs of numbers that add to 20.

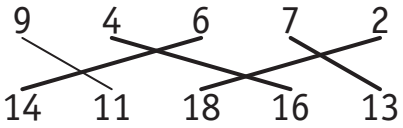
Numbers that add to 20:

10	11	12	13	14	15	16	17	18	19	20
|	|	|	|	|	|	|	|	|	|	|
10	9	8	7	6	5	4	3	2	1	0

Q. Draw lines to join pairs of numbers that add to 20.

9	4	6	7	2
14	11	18	16	13

A.



4 + 16 = 20
6 + 14 = 20
7 + 13 = 20
2 + 18 = 20

a) Draw lines to join pairs of numbers that add to 20.

11	15	20	19	12
0	9	8	5	1

b) Draw lines to join pairs of numbers that add to 20.

3	10	7	4	2
16	18	10	13	17

c) Draw lines to join pairs of numbers that add to 20.

13	17	14	16	18
2	3	7	6	4

d) Draw lines to join pairs of numbers that add to 20.

9	6	8	1	5
14	19	15	11	12

e) Draw lines to join pairs of numbers that add to 20.

12	14	20	17	15
8	0	5	6	3

f) Draw lines to join pairs of numbers that add to 20.

8	2	10	4	3
16	12	17	18	10

Skill 2.9 Adding numbers by first making 10.

- Recognise the pair of numbers that add to 10.

0	1	2	3	4	5	6	7	8	9
|	|	|	|	|	|	|	|	|	|
10	9	8	7	6	5	4	3	2	1

- Add the remaining number to 10.

Q. Circle the numbers that make 10, then add.

$2 + 7 + 8 =$ ☐

A. (2) + 7 + (8) = **17**

2 + 8 = 10
10 + 7 = 17

a) Circle the numbers that make 10, then add.

(3) + 6 + (7) = 16

b) Circle the numbers that make 10, then add.

$5 + 9 + 5 =$ ☐

c) Circle the numbers that make 10, then add.

$8 + 4 + 6 =$ ☐

d) Circle the numbers that make 10, then add.

$1 + 9 + 3 =$ ☐

e) Circle the numbers that make 10, then add.

$7 + 9 + 1 =$ ☐

f) Circle the numbers that make 10, then add.

$8 + 5 + 2 =$ ☐

g) Circle the numbers that make 10, then add.

$6 + 4 + 3 =$ ☐

h) Circle the numbers that make 10, then add.

$7 + 1 + 3 =$ ☐

i) Circle the numbers that make 10, then add.

$4 + 5 + 5 =$ ☐

j) Circle the numbers that make 10, then add.

$2 + 8 + 6 =$ ☐

k) Circle the numbers that make 10, then add.

$7 + 8 + 3 =$ ☐

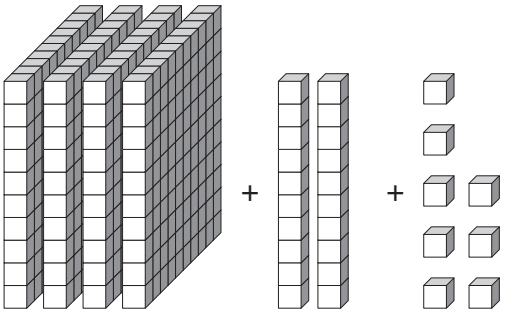
l) Circle the numbers that make 10, then add.

$4 + 6 + 9 =$ ☐

Skill 2.10 Adding numbers by using base 10 blocks (1).

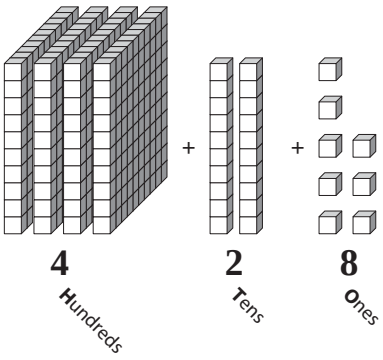
- Write the total number of 10 × 10 blocks in the hundreds place.
- Write the total number of 1 × 10 blocks in the tens place.
- Write the total number of minis in the ones place.

Q. Complete the addition.

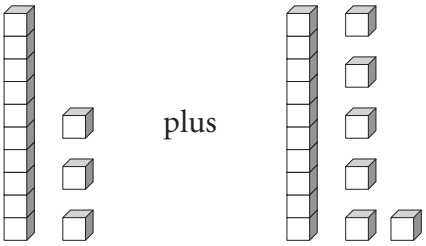


400 + 20 + 8 = ☐

A. *400 + 20 + 8* = ***428***

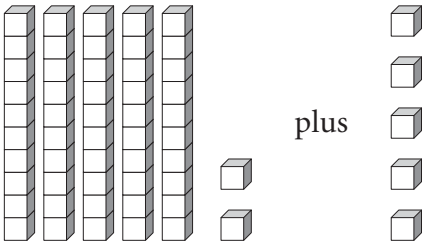


a) Complete the addition.



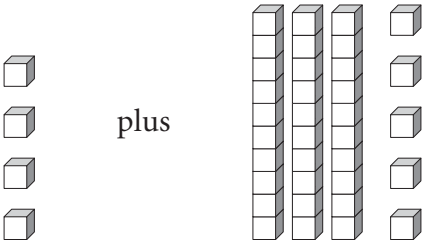
13 + 16 = 29

b) Complete the addition.



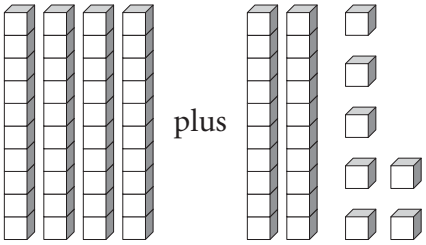
52 + 5 = ☐

c) Complete the addition.



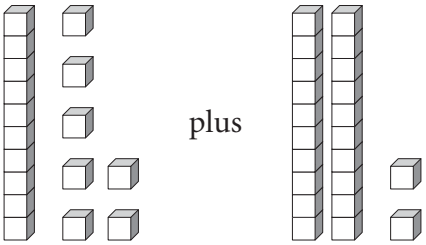
4 + 35 = ☐

d) Complete the addition.



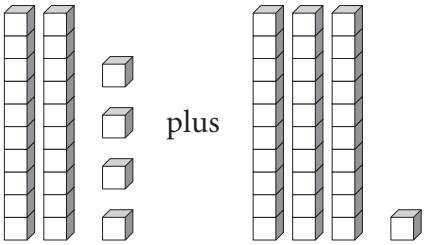
40 + 27 = ☐

e) Complete the addition.



17 + 22 = ☐

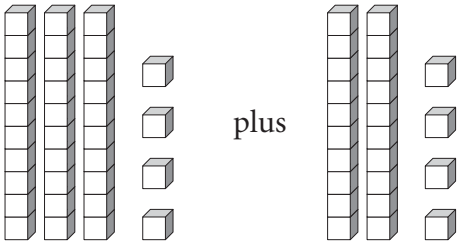
f) Complete the addition.



24 + 31 = ☐

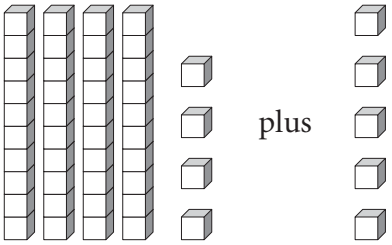
Skill 2.10 Adding numbers by using base 10 blocks (2).

g) Complete the addition.



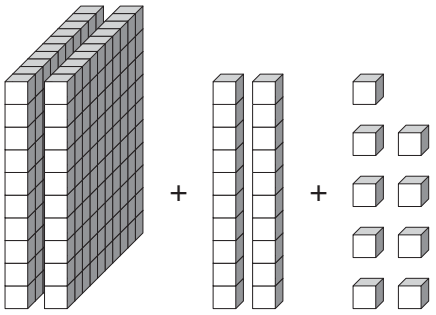
34 + 24 = ☐

h) Complete the addition.



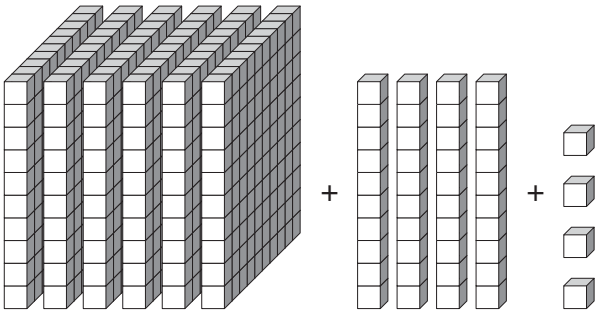
44 + 5 = ☐

i) Complete the addition.



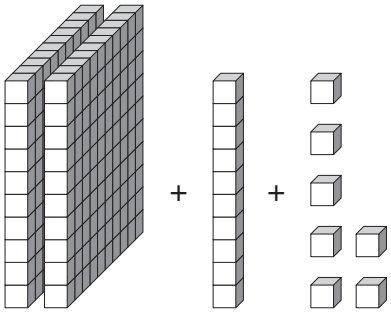
200 + 20 + 9 = ☐

j) Complete the addition.



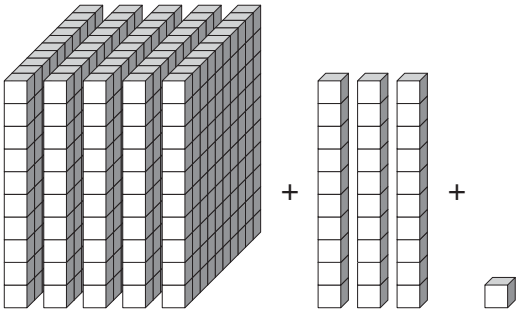
600 + 40 + 4 = ☐

k) Complete the addition.



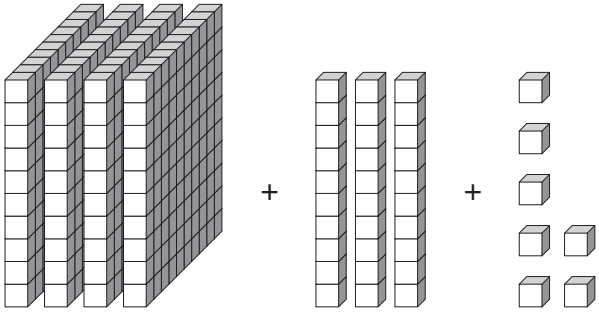
200 + 10 + 7 = ☐

l) Complete the addition.



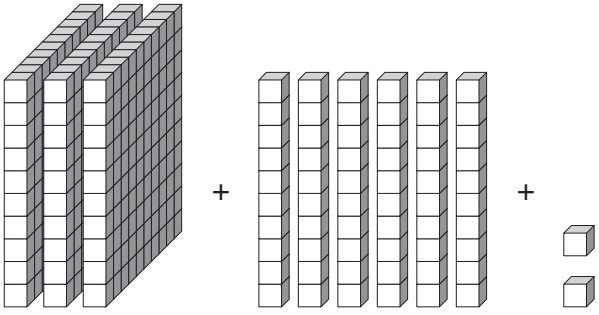
500 + 30 + 1 = ☐

m) Complete the addition.



400 + 30 + 7 = ☐

n) Complete the addition.

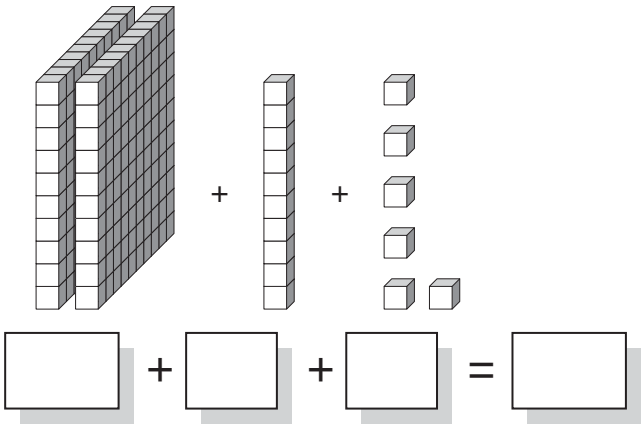


300 + 60 + 2 = ☐

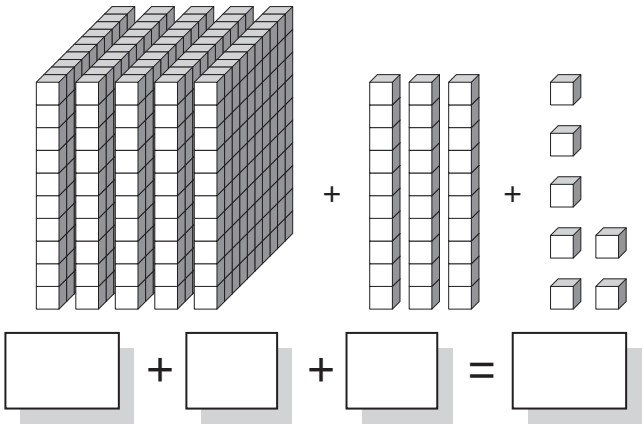
Skill 2.10 Adding numbers by using base 10 blocks (3).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

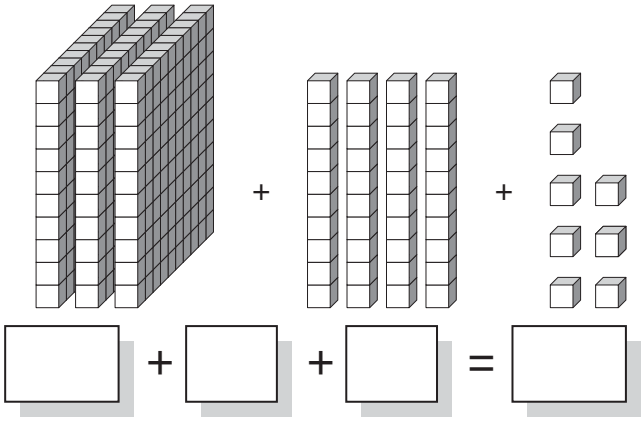
o) Complete the addition.



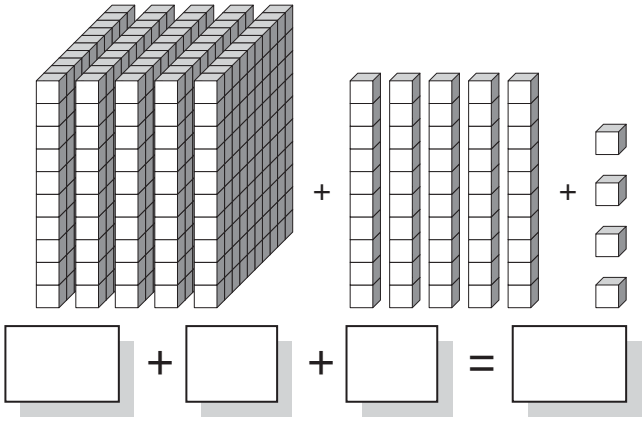
p) Complete the addition.



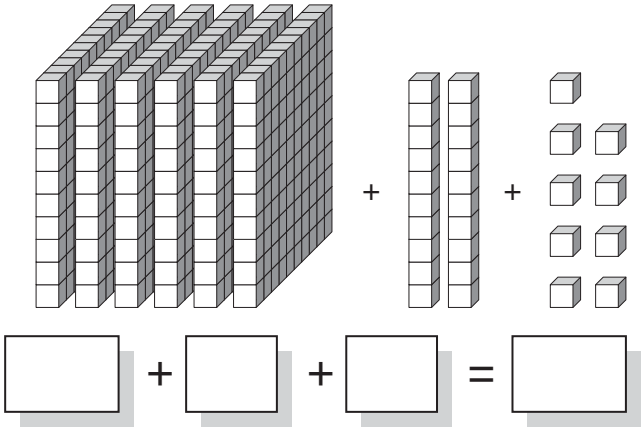
q) Complete the addition.



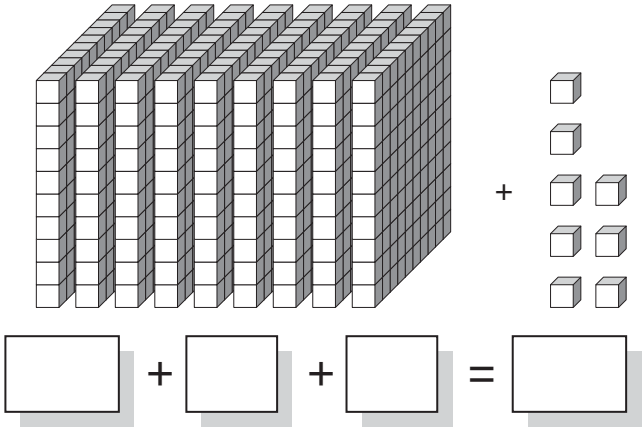
r) Complete the addition.



s) Complete the addition.



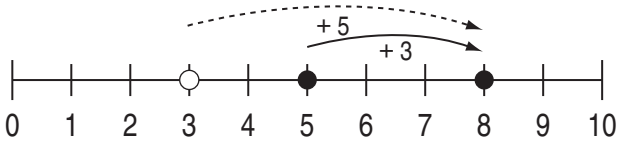
t) Complete the addition.



Skill 2.11 Modelling the commutative property for addition on a number line.

- Use the number line to check both sums.
- Find the missing number from the other side of the sum.
  Hint: When adding two numbers, the order of the numbers can be reversed.

Q.

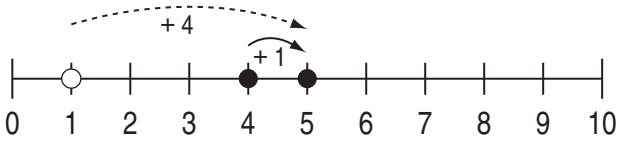


$5 + 3 = 3 +$ ☐

A. $5 + 3 = 3 + \mathbf{5}$

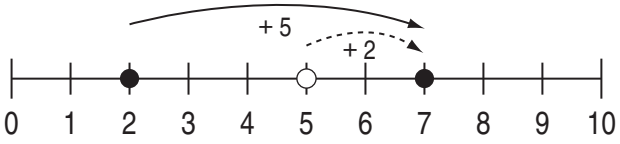
$5 + 3 = 8$
$3 + 5 = 8$

a)



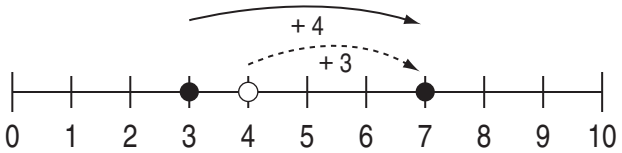
$4 + 1 = 1 +$ 4

b)



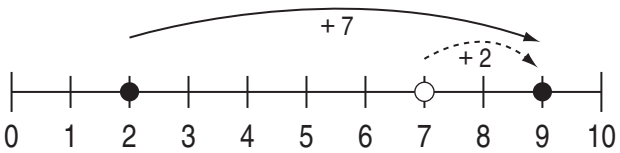
☐ $+ 2 = 2 + 5$

c)



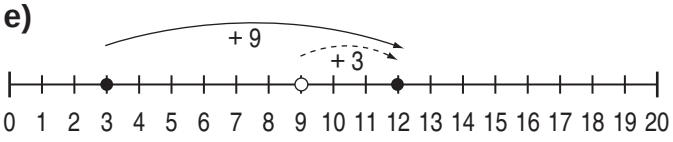
$3 + 4 =$ ☐ $+ 3$

d)



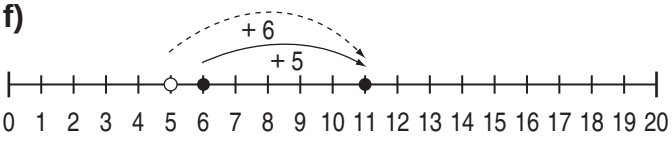
$2 + 7 = 7 +$ ☐

e)



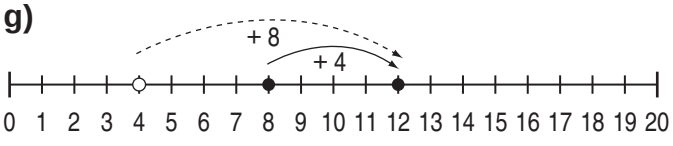
☐ $+ 3 = 3 + 9$

f)



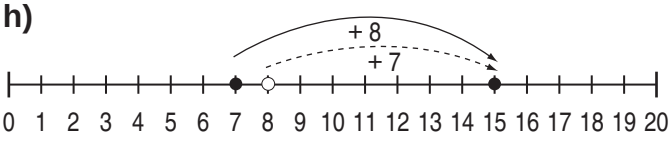
$6 + 5 =$ ☐ $+ 6$

g)



$8 + 4 = 4 +$ ☐

h)



$7 + 8 =$ ☐ $+ 7$

3. [Subtraction]

Skill 3.1 Subtracting the numbers from 1 to 10 represented by pictures, by counting back (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Look at the number you need to subtract.
- Cross this amount.
- Count the remaining objects to complete the subtraction.

Q. Take away 4.

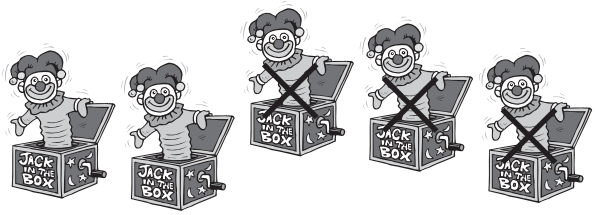
☐ – ☐ = ☐

A. ***7 – 4 = 3***

a) Complete the subtraction.

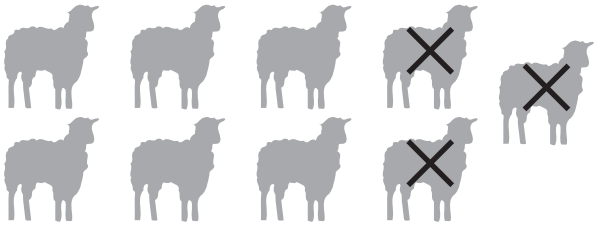
6 – 2 = 4

b) Complete the subtraction.



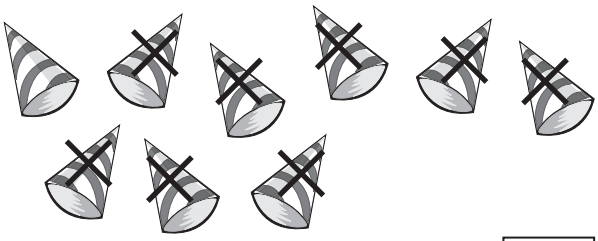
5 – 3 = ☐

c) Complete the subtraction.



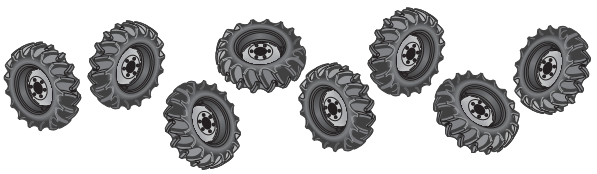
9 – 3 = ☐

d) Complete the subtraction.



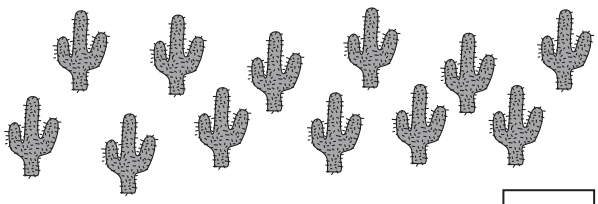
9 – 8 = ☐

e) Take away 4.



8 – 4 = ☐

f) Take away 8.

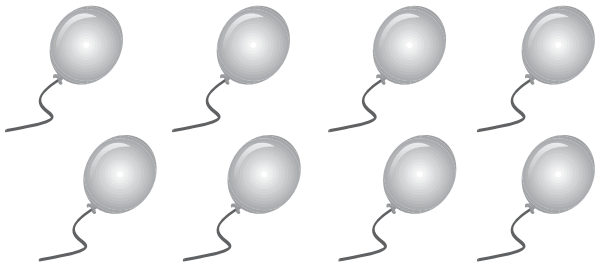


12 – 8 = ☐

Skill 3.1 Subtracting the numbers from 1 to 10 represented by pictures, by counting back (2).

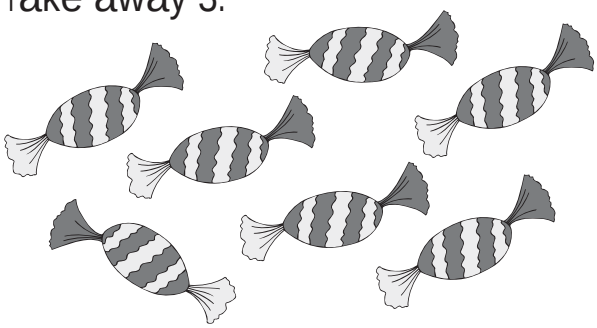
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

g) Take away 1.



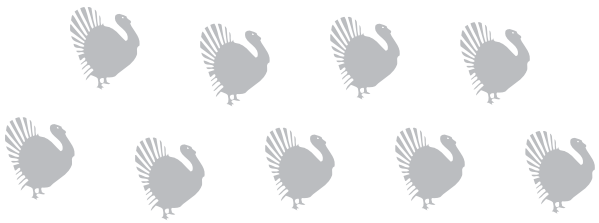
□ − □ = □

h) Take away 3.



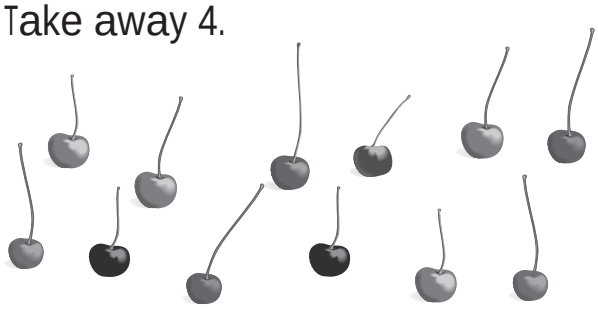
□ − □ = □

i) Take away 5.



□ − □ = □

j) Take away 4.



□ − □ = □

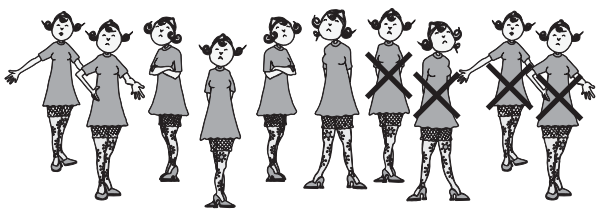
k) Complete the subtraction.

□ − □ = □

l) Complete the subtraction.

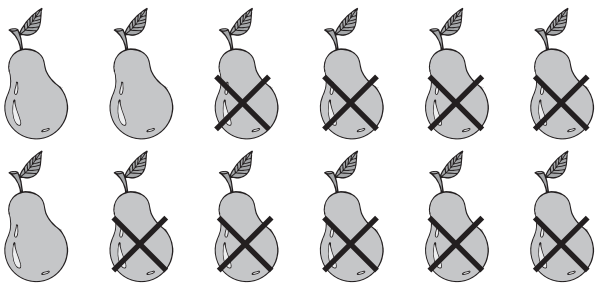
□ − □ = □

m) Complete the subtraction.



□ − □ = □

n) Complete the subtraction.



□ − □ = □

Skill 3.2 Subtracting the numbers from 1 to 10 by counting backwards on a number line (1).

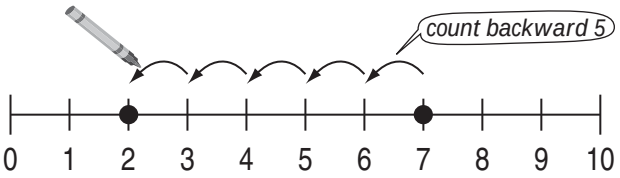
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Mark the first number in the subtraction on the number line.
- Use your pencil to count backwards the second number.

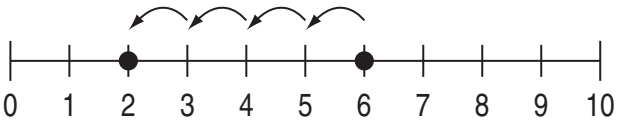
Q.

$7 - 5 =$ ☐

A. $7 - 5 = \mathbf{2}$

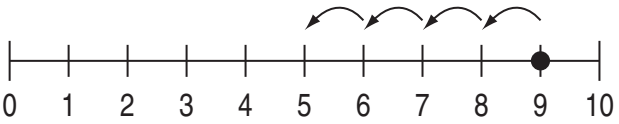


a)



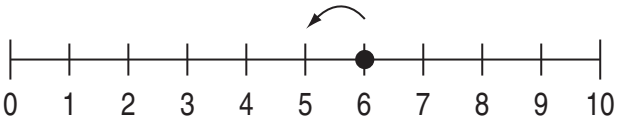
$6 - 4 =$ 2

b)



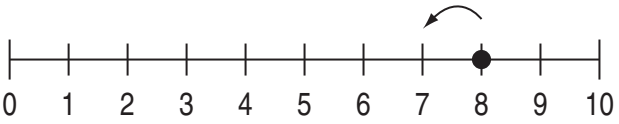
$9 - 4 =$ ☐

c)



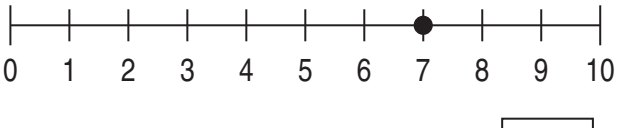
$6 - 3 =$ ☐

d)



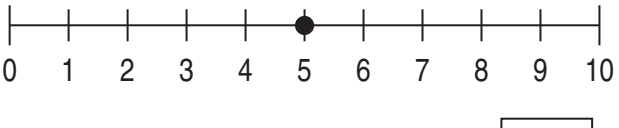
$8 - 5 =$ ☐

e)



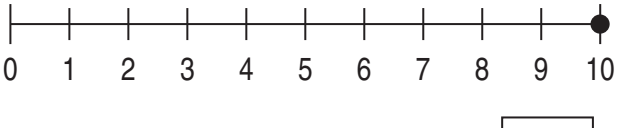
$7 - 3 =$ ☐

f)



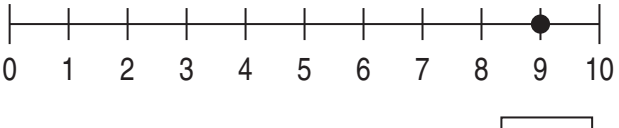
$5 - 2 =$ ☐

g)



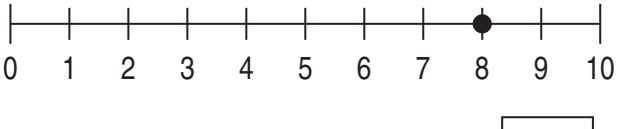
$10 - 7 =$ ☐

h)



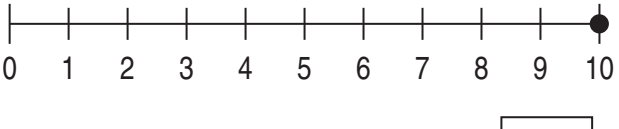
$9 - 8 =$ ☐

i)



$8 - 4 =$ ☐

j)

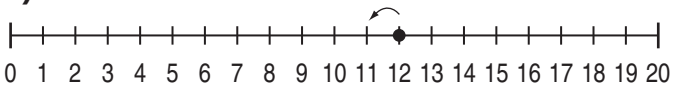


$10 - 8 =$ ☐

Skill 3.2 Subtracting the numbers from 1 to 10 by counting backwards on a number line (2).

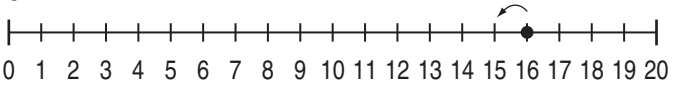
MM3 1 1 1 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

k)



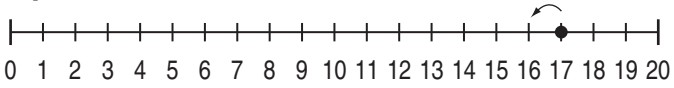
12 – 5 = ☐

l)



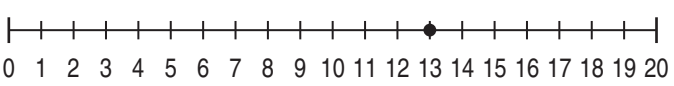
16 – 9 = ☐

m)



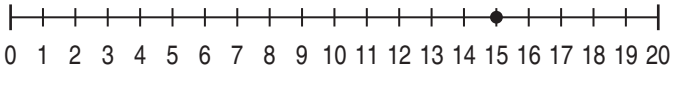
17 – 8 = ☐

n)



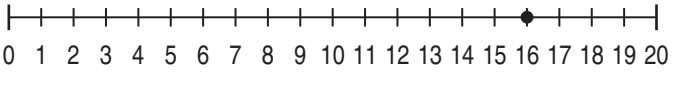
13 – 6 = ☐

o)



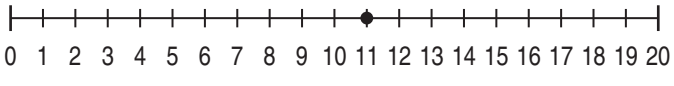
15 – 7 = ☐

p)



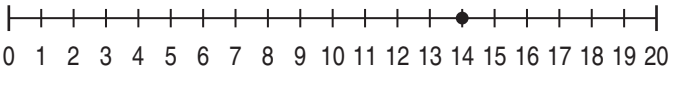
16 – 4 = ☐

q)



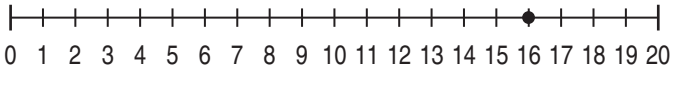
11 – 6 = ☐

r)



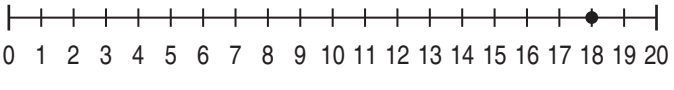
14 – 9 = ☐

s)



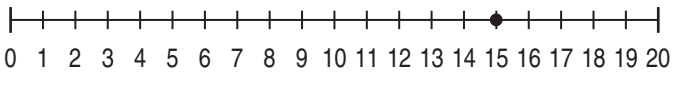
16 – 6 = ☐

t)



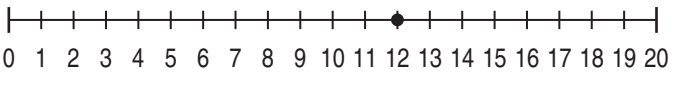
18 – 5 = ☐

u)



15 – 9 = ☐

v)

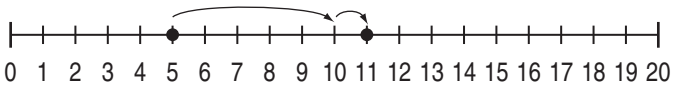


12 – 8 = ☐

Skill 3.3 Subtracting the numbers from 1 to 10 by first building up to 10 on a number line.

- Count how many units are needed to get from the second number to 10.
- Count how many units are needed to get from 10 to the first number.
- Add the total number of units.

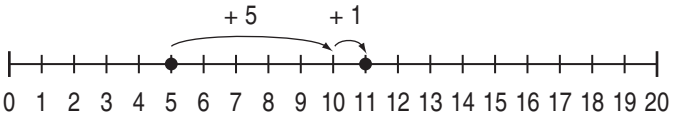
Q. How much must be added to 5 to make 11?



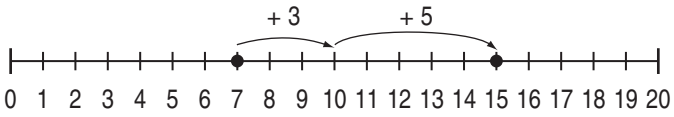
11 – 5 = ☐

A. *11 – 5*
= *5 + 1*
= ***6***

5 units from 5 to 10.
1 unit from 10 to 11.



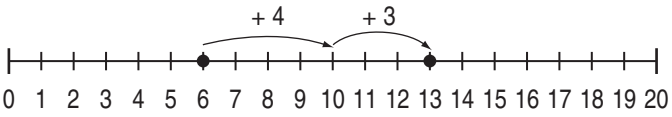
a) How much must be added to 7 to make 15?



15 – 7 =

3 + 5 = 8

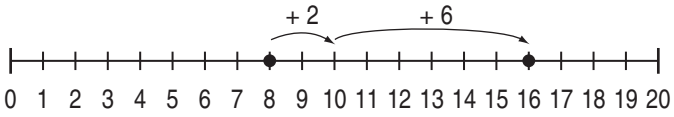
b) How much must be added to 6 to make 13?



13 – 6 =

= ☐

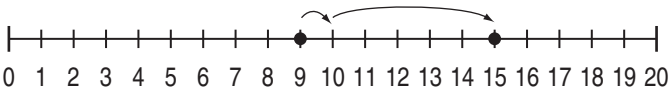
c) How much must be added to 8 to make 16?



16 – 8 =

= ☐

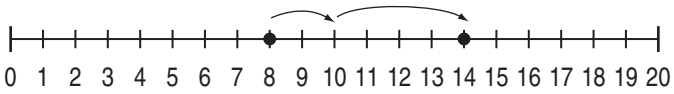
d) How much must be added to 9 to make 15?



15 – 9 =

= ☐

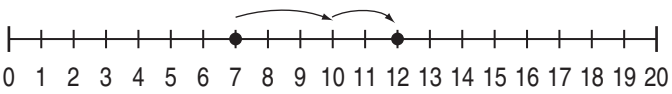
e) How much must be added to 8 to make 14?



14 – 8 =

= ☐

f) How much must be added to 7 to make 12?



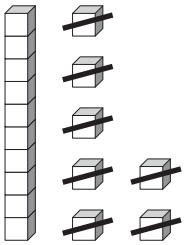
12 – 7 =

= ☐

Skill 3.4 Subtracting the numbers from 1 to 10 by using base 10 blocks.

- Count the total number of blocks.
- Count the number of blocks to be subtracted.
- Count the remaining blocks to complete the subtraction.

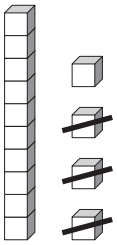
Q. Complete the subtraction.



☐ – ☐ = ☐

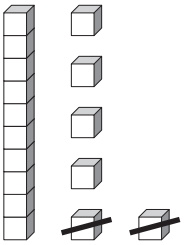
A. ***17 – 7 = 10***

a) Complete the subtraction.



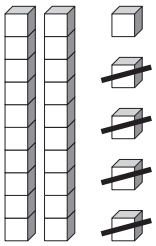
14 – 3 = ☐

b) Complete the subtraction.



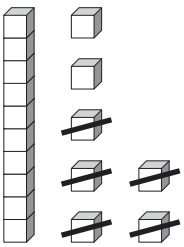
16 – 2 = ☐

c) Complete the subtraction.



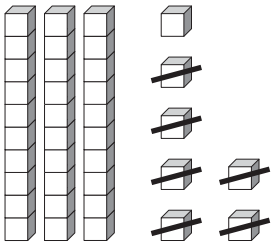
25 – 4 = ☐

d) Complete the subtraction.



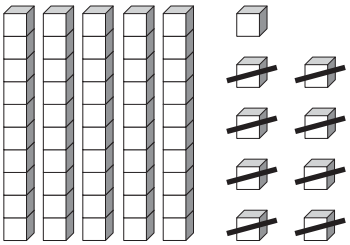
17 – 5 = ☐

e) Complete the subtraction.



☐ – ☐ = ☐

f) Complete the subtraction.

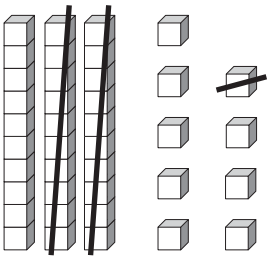


☐ – ☐ = ☐

Skill 3.5 Subtracting 2-digit numbers by using base 10 blocks.

- Count the total number of blocks.
- Count the number of blocks to be subtracted.
- Count the remaining blocks to complete the subtraction.

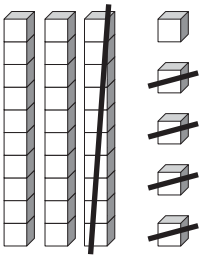
Q. Complete the subtraction.



☐ – ☐ = ☐

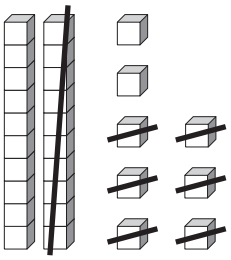
A. ***39 – 21 = 18***

a) Complete the subtraction.



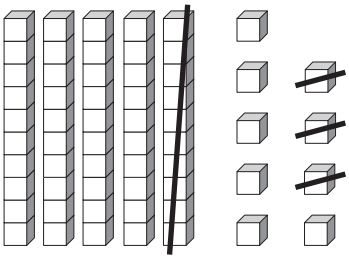
35 – 14 = 21

b) Complete the subtraction.



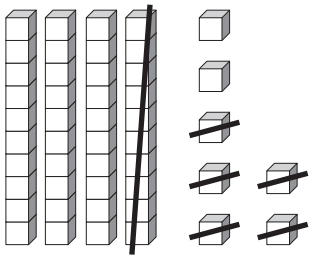
28 – 16 = ☐

c) Complete the subtraction.



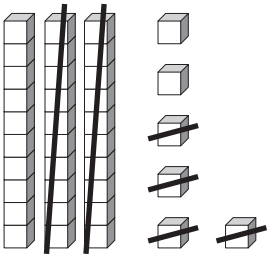
59 – 13 = ☐

d) Complete the subtraction.



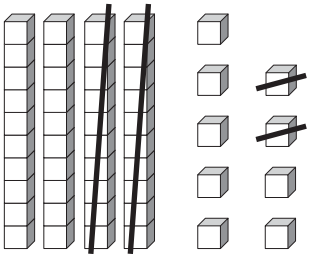
47 – 15 = ☐

e) Complete the subtraction.



☐ – ☐ = ☐

f) Complete the subtraction.

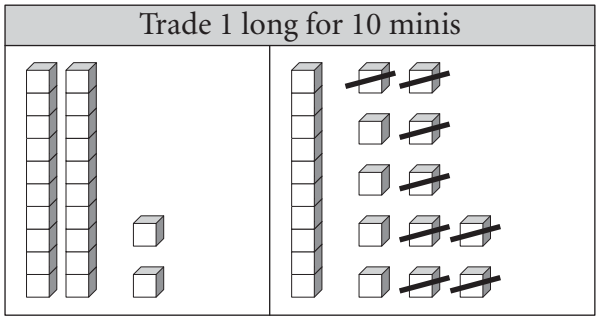


☐ – ☐ = ☐

Skill 3.6 Subtracting the numbers from 1 to 10 from 2-digit numbers with smaller unit values, by trading with base 10 blocks.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

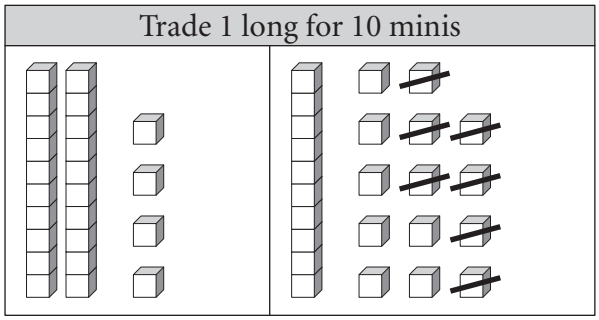
Q. Complete the subtraction.



22 – 8 = ☐

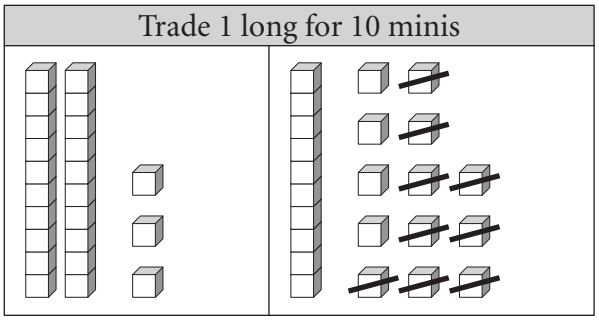
A. *22 – 8 =* ***14***

a) Complete the subtraction.



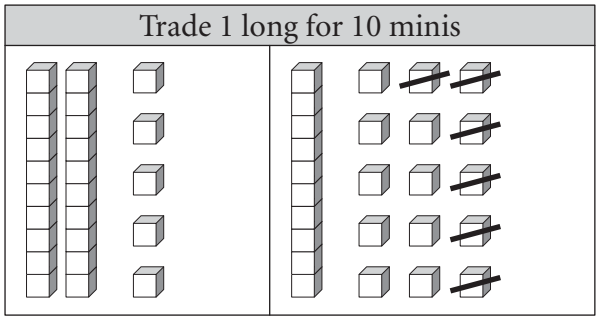
24 – 7 = 17

b) Complete the subtraction.



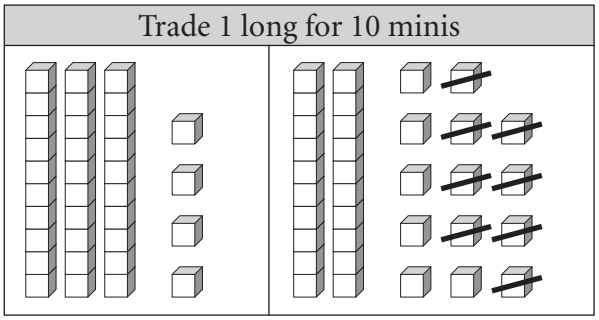
23 – 9 = ☐

c) Complete the subtraction.



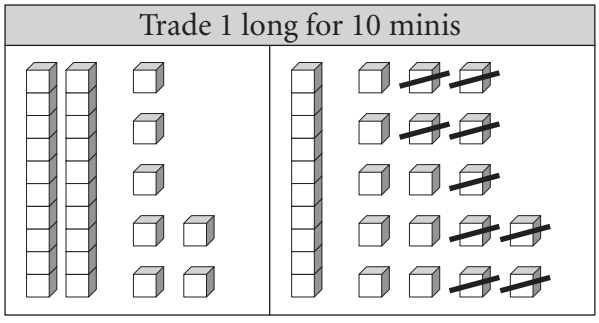
25 – 6 = ☐

d) Complete the subtraction.



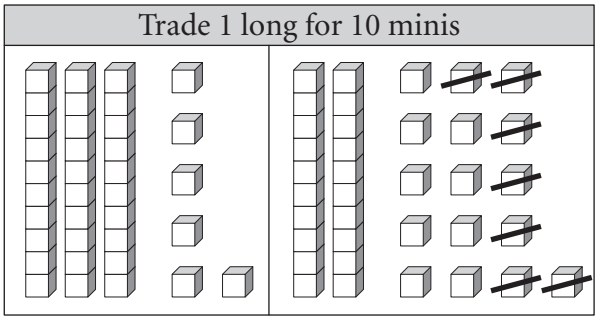
34 – 8 = ☐

e) Complete the subtraction.



27 – 9 = ☐

f) Complete the subtraction.

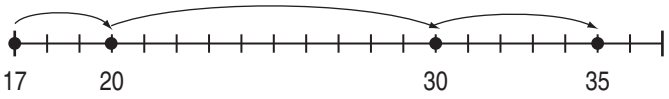


36 – 7 = ☐

Skill 3.7 Subtracting 2-digit numbers by first building up to 20 on a number line.

- Count how many units are needed to get from the second number to 20.
- Count how many units are needed to get from 20 to 30.
- Count how many units are needed to get from 30 to the first number.
- Add the total number of units.

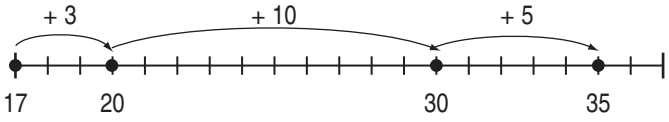
Q. Subtract by first building up from 17 to 20.



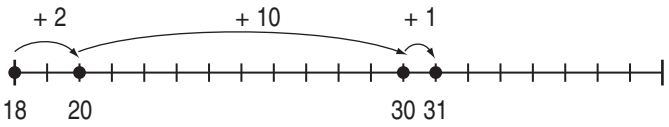
35 – 17 = ☐

A. *35 – 17*
= *3 + 10 + 5*
= ***18***

3 units from 17 to 20.
10 units from 20 to 30.
5 units from 30 to 35.



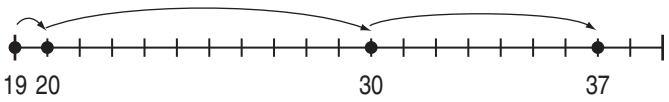
a) Subtract by first building up from 18 to 20.



31 – 18 =

2 + 10 + 1 = 13

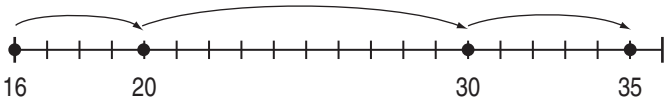
b) Subtract by first building up from 19 to 20.



37 – 19 =

= ☐

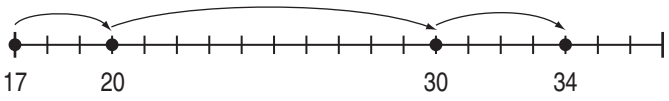
c) Subtract by first building up from 16 to 20.



35 – 16 =

= ☐

d) Subtract by first building up from 17 to 20.



34 – 17 =

= ☐

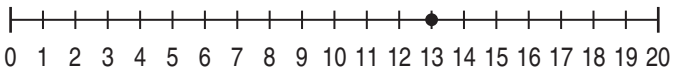
Skill 3.8 Modelling facts for subtraction on a number line.

EITHER
- Use the number line to do both subtractions.
  If the results are equal, then the fact is true.

OR
- Notice the arrangement of numbers in both the sum and the subtraction. Find the missing number in the subtraction from the sum.
- Check that the missing number is the result using the number line.

Hint: When subtracting two numbers, the order of the numbers cannot be reversed to get the same result.

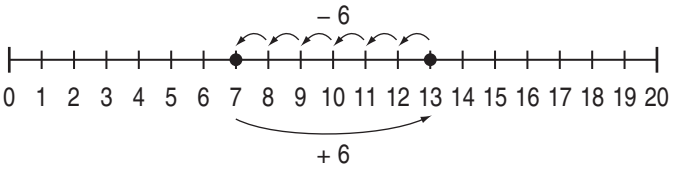
Q.



7 + 6 = 13

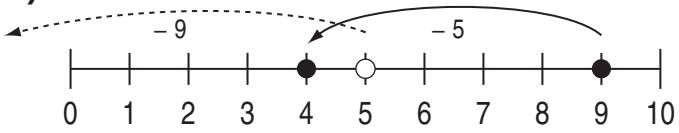
13 – ☐ = 7

A. *13 – **6** = 7*



7 + 6 = 13
13 – ? = 7

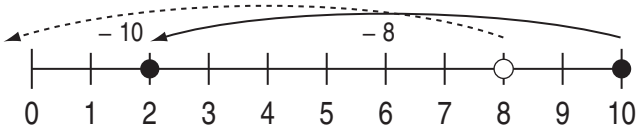
a)



9 – 5 = 5 – 9
True or false?

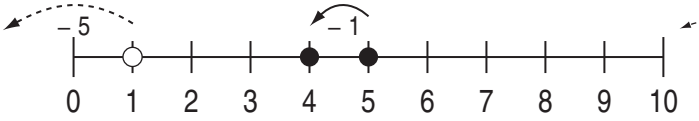
false

b)



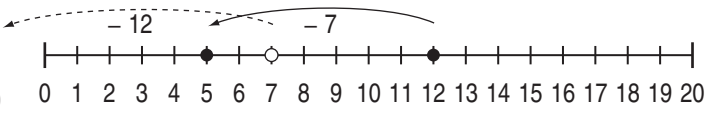
10 – 8 = 8 – 10
True or false?

c)



5 – 1 = 1 – 5
True or false?

d)



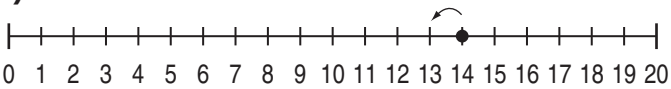
12 – 7 = 7 – 12
True or false?

e)

5 + 6 = 11

11 – 6 = ☐

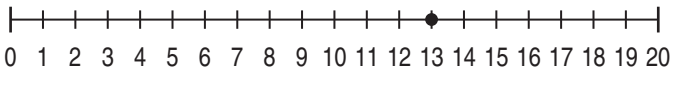
f)



6 + 8 = 14

14 – ☐ = 6

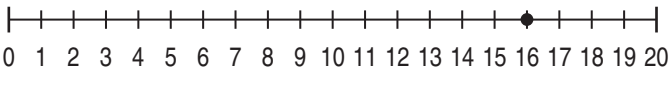
g)



4 + 9 = 13

13 – ☐ = 4

h)



9 + 7 = 16

16 – 7 = ☐

4. [Multiplication]

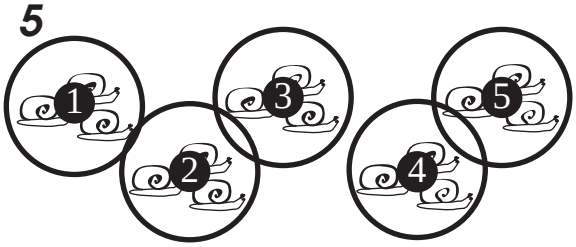
Skill 4.1 Recognising and counting groups of equal numbers of objects.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Find identical groups.
- Count the number of identical groups.

Q. How many groups of 3 snails?

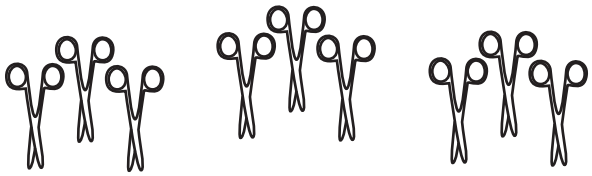
A. *5*



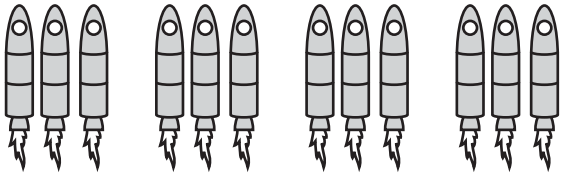
a) How many groups of 4 balls?

4

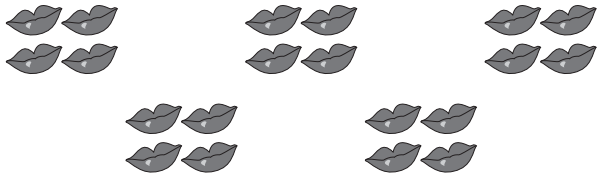
b) How many groups of 3 scissors?



c) How many groups of 3 rockets?

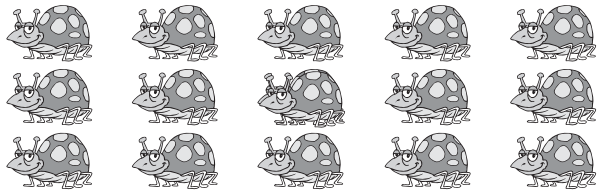


d) How many groups of 4 mouths?



e) How many groups of 6 stars?

f) How many groups of 3 bugs?



g) How many groups of 3 birds?

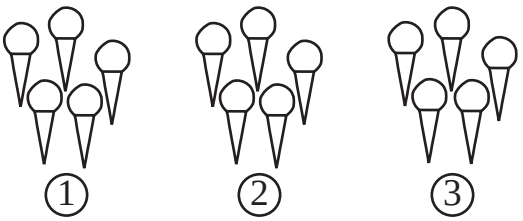
h) How many groups of 5 chickens?

Skill 4.2 Drawing groups of equal numbers of objects (1).

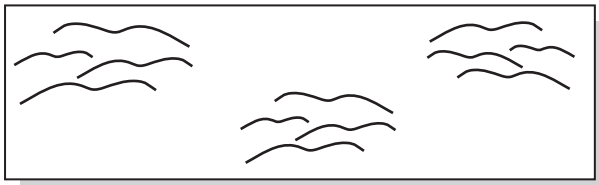
- Draw one group with the required number of objects.
- Draw as many similar groups as needed.

Q. Draw 3 groups of 5 ice creams.

A.



a) Draw 3 groups of 4 birds.



b) Draw 2 groups of 2 scarecrows.

c) Draw 4 groups of 3 windmills.

d) Draw 3 groups of 3 CDs.

e) Draw 2 groups of 3 trees.

f) Draw 3 groups of 8 footballs.

g) Draw 3 groups of 4 sail boats.

h) Draw 2 groups of 4 hearts.

i) Draw 2 groups of 5 triangles.

j) Draw 2 groups of 2 butterflies.

Skill 4.2 Drawing groups of equal numbers of objects (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

k) Draw 2 groups of 3 flags.

l) Draw 3 groups of 3 stars.

m) Draw 4 groups of 3 kites.

n) Draw 2 groups of 4 dogs.

o) Draw 3 groups of 5 leaves.

p) Draw 2 groups of 3 eggs.

q) Draw 3 groups of 5 witches hats.

r) Draw 3 groups of 4 biscuits.

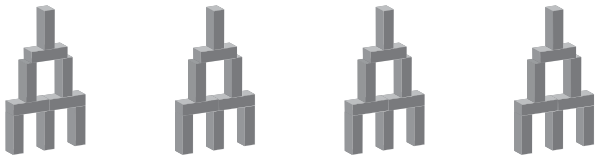
s) Draw 5 groups of 4 diamonds.

t) Draw 5 groups of 4 stars.

Skill 4.3 Counting numbers of groups and numbers of objects in a group.

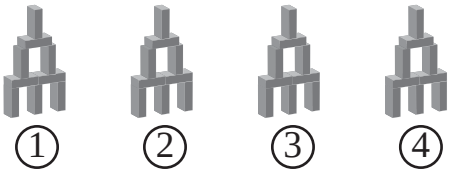
- Count the number of groups.
- Count the number of objects in each group.

Q. Fill in the gaps.



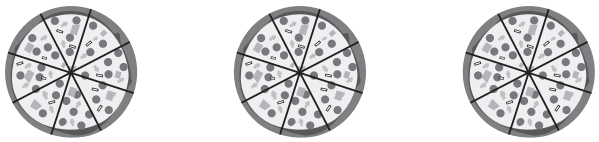
☐ groups of ☐ blocks

A. *4 groups of 9 blocks*



There are 4 groups.
Each group has 9 blocks.

a) Fill in the gaps.

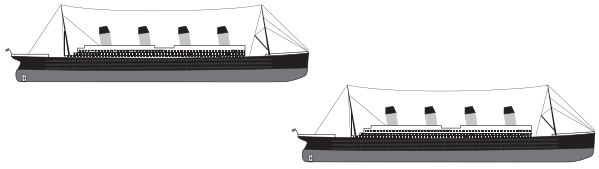


3 groups of 8 slices

b) Fill in the gaps.

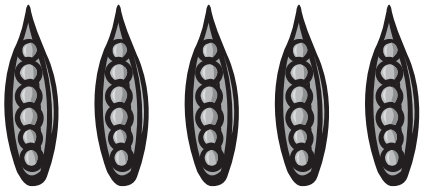
☐ groups of ☐ pencils

c) Fill in the gaps.



☐ groups of ☐ stacks

d) Fill in the gaps.



☐ groups of ☐ peas

e) Fill in the gaps.

☐ groups of ☐ sails

f) Fill in the gaps.

☐ groups of ☐ toes

g) Fill in the gaps.

☐ groups of ☐ blades

h) Fill in the gaps.

☐ groups of ☐ lenses

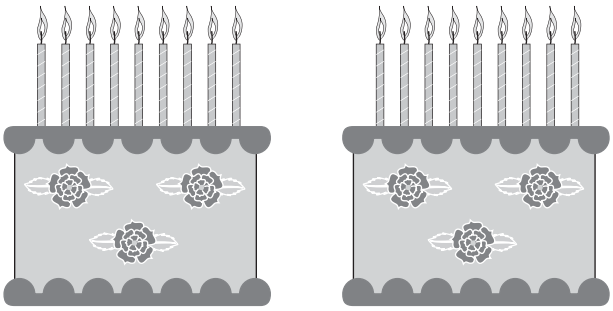
Skill 4.4 Multiplying the numbers from 1 to 10 represented by pictures.

- Count the total number of objects in the groups.

OR

- Use counting by the number of objects.

Q.



2 groups of 9 candles = candles

A. ***18*** *candles*

2 groups of 9 candles = 18 candles
OR
Count by 9s two times: 9, 18

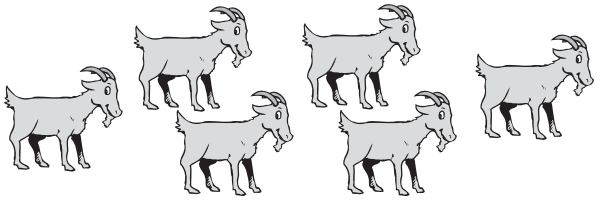
a)

4 groups of 8 paints = 32 paints

b)

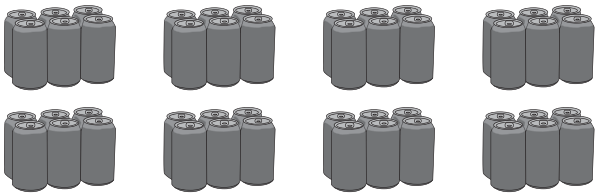
2 groups of 5 people = people

c)



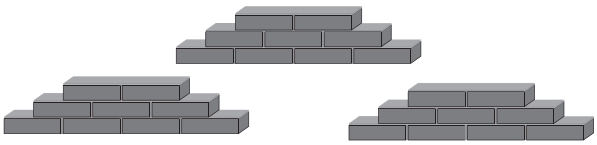
6 groups of 4 legs = legs

d)



8 groups of 6 cans = cans

e)

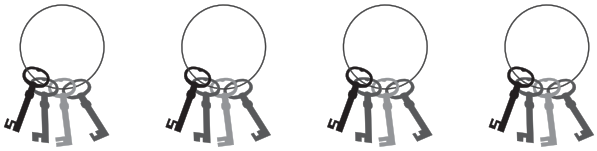


3 groups of 9 bricks = bricks

f)

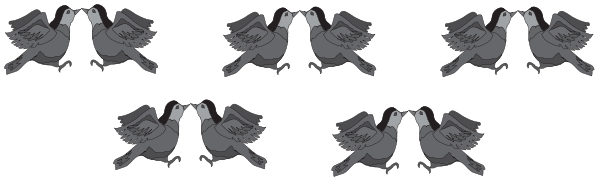
4 groups of 5 books = books

g)



4 groups of 4 keys = keys

h)



5 groups of 2 birds = birds

Skill 4.5 Multiplying the numbers from 1 to 10 by using arrays (1).

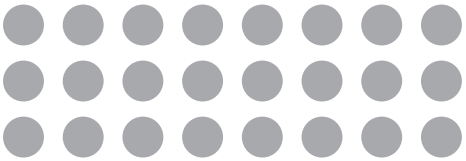
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Count the total number of shapes in the array.

OR

- Use counting by the number of rows or by the number of columns.

Q. Complete the multiplication.



3 rows of 8 =

□ × □ = □

A. ***3 × 8 = 24***

3 rows of 8 = 3 × 8 = 24 or
8 columns of 3 = 8 × 3 = 24
OR
Count by 3s eight times:
3, 6, 9, 12, 15, 18, 21, 24

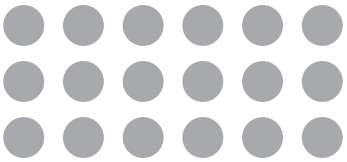
8 times

a) Complete the multiplication.

2 rows of 3 =

2 × 3 = 6

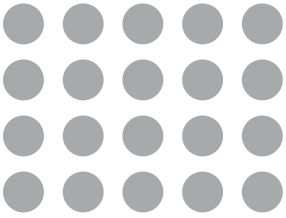
b) Complete the multiplication.



3 rows of 6 =

3 × 6 = □

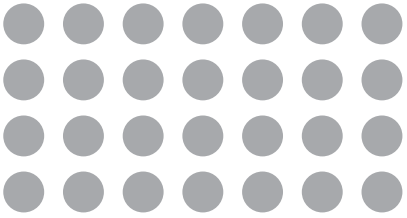
c) Complete the multiplication.



4 rows of 5 =

4 × 5 = □

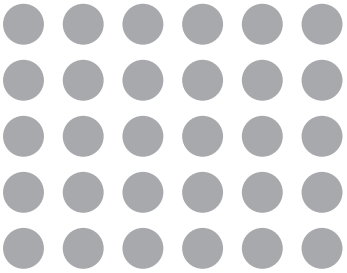
d) Complete the multiplication.



4 rows of 7 =

4 × 7 = □

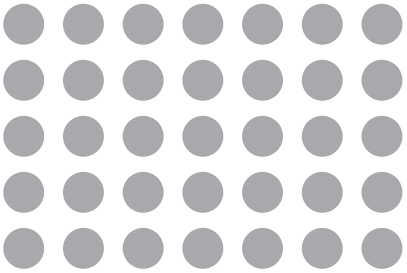
e) Complete the multiplication.



5 rows of 6 =

□ × □ = □

f) Complete the multiplication.



5 rows of 7 =

□ × □ = □

Skill 4.5 Multiplying the numbers from 1 to 10 by using arrays (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

g) Complete the multiplication.

2 rows of 4 =

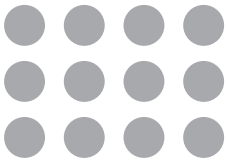
□ × □ = □

h) Complete the multiplication.

2 rows of 6 =

□ × □ = □

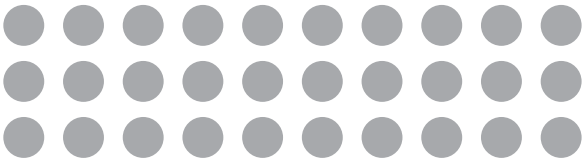
i) Complete the multiplication.



3 rows of 4 =

□ × □ = □

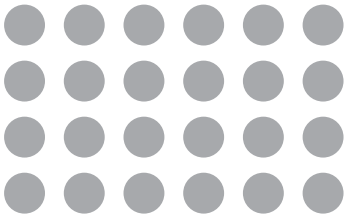
j) Complete the multiplication.



3 rows of 10 =

□ × □ = □

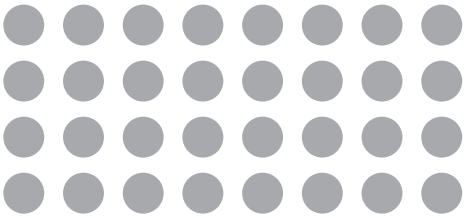
k) Complete the multiplication.



4 rows of 6 =

□ × □ = □

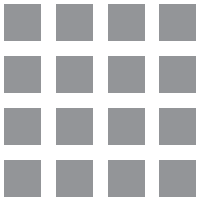
l) Complete the multiplication.



4 rows of 8 =

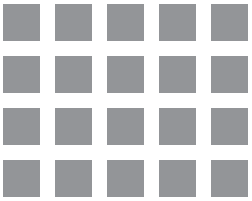
□ × □ = □

m) Complete the multiplication.



4 × 4 = □

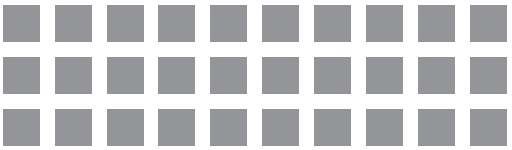
n) Complete the multiplication.



4 × 5 = □

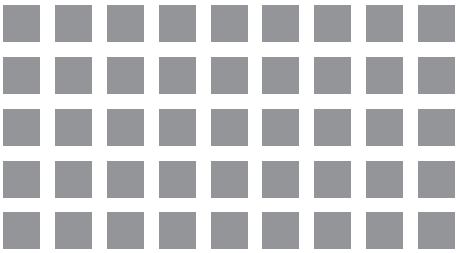
Skill 4.5 Multiplying the numbers from 1 to 10 by using arrays (3).

o) Complete the multiplication.



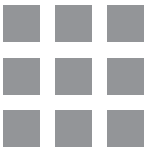
$3 \times 10 = \square$

p) Complete the multiplication.



$5 \times 9 = \square$

q) Complete the multiplication.

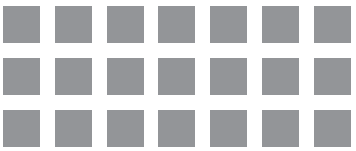


$\square \times 3 = \square$

r) Complete the multiplication.

$2 \times \square = \square$

s) Complete the multiplication.



$\square \times 7 = \square$

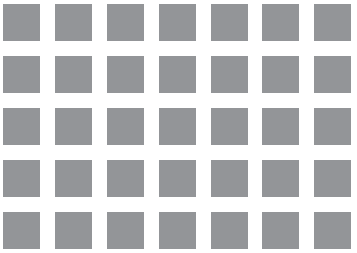
t) Complete the multiplication.

$\square \times 10 = \square$

u) Complete the multiplication.

$\square \times 2 = \square$

v) Complete the multiplication.

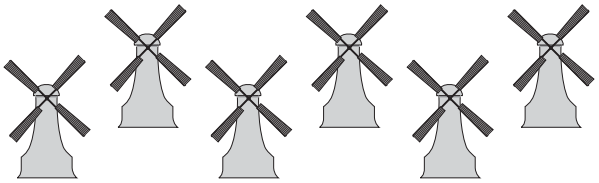


$5 \times \square = \square$

Skill 4.6 Multiplying the numbers from 1 to 10 by using repetitive addition (1).

- Count the number of objects.
- Add the number of parts of each object, the number of times needed.

Q. Complete the multiplication.

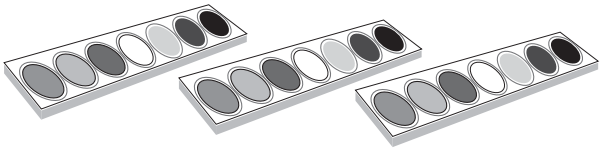


[ ] × 4 blades = [blades]

A. ***6*** × *4 blades* = ***24*** *blades*

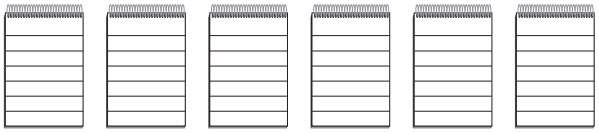
6 × 4 blades
= 4 + 4 + 4 + 4 + 4 + 4 = 24 blades
(6 times)

a) Complete the multiplication.



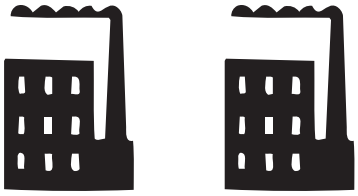
[3] × 7 paints = [21 paints]

b) Complete the multiplication.



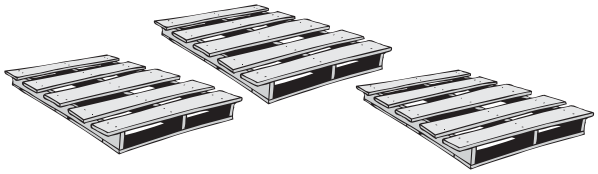
[ ] × 6 lines = [lines]

c) Complete the multiplication.



[ ] × 9 windows = [windows]

d) Complete the multiplication.



[ ] × 5 planks = [planks]

e) Complete the multiplication.

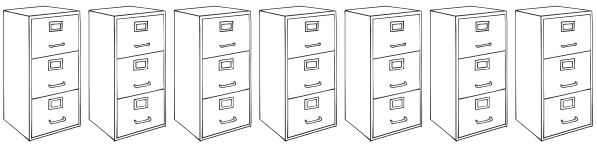
[ ] × 6 books = [books]

f) Complete the multiplication.

[ ] × 8 chairs = [chairs]

Skill 4.6 Multiplying the numbers from 1 to 10 by using repetitive addition (2).

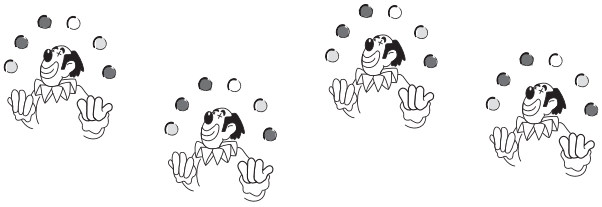
g) Complete the multiplication.



☐ × 3 drawers =

drawers

h) Complete the multiplication.



☐ × 6 balls =

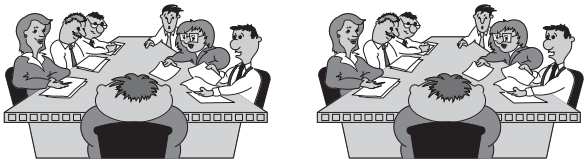
balls

i) Complete the multiplication.

☐ × 6 columns =

columns

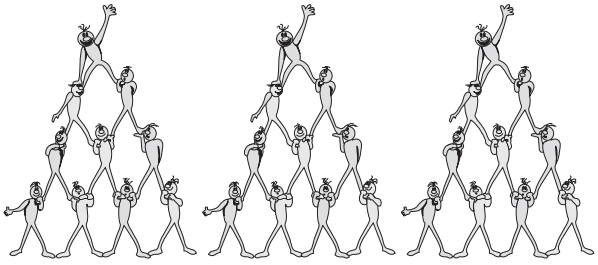
j) Complete the multiplication.



☐ × 7 people =

people

k) Complete the multiplication.



☐ × 10 gymnasts =

gymnasts

l) Complete the multiplication.

☐ × 3 blades =

blades

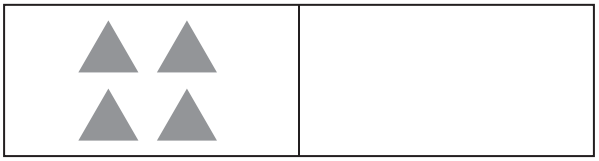
Skill 4.7 Doubling a number.

- Draw the same number of objects next to the given objects.
- Count the total number of objects.

OR

- Add the number to itself.

Q. Double this number of triangles by first drawing them.

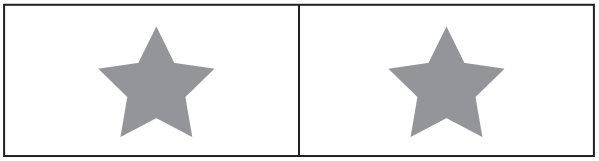


$2 \times 4 =$ ☐

A. ***8***

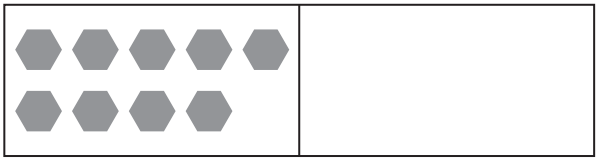
4 doubled = 8
OR
2×4
$= 4 + 4$
$= 8$

a) Double this number of stars by first drawing them.



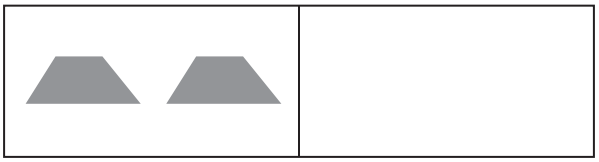
$2 \times 1 =$ 2

b) Double this number of hexagons by first drawing them.



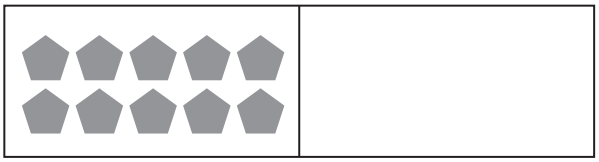
$2 \times 9 =$ ☐

c) Double this number of trapeziums by first drawing them.



☐ × ☐ = ☐

d) Double this number of pentagons by first drawing them.



☐ × ☐ = ☐

e) Double 5.

$2 \times 5 =$ ☐

f) Double 8.

$2 \times 8 =$ ☐

g) Double 6.

☐ × ☐ = ☐

h) Double 3.

☐ × ☐ = ☐

i) Double 10.

☐ × ☐ = ☐

j) Double 12.

☐ × ☐ = ☐

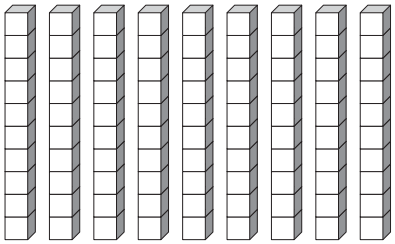
Skill 4.8 Multiplying by 10 by using base 10 blocks.

- Count by 10s using base 10 blocks (1 × 10).

OR

- Add a zero to the end of the number that is being multiplied by 10.

Q. Complete the multiplication.

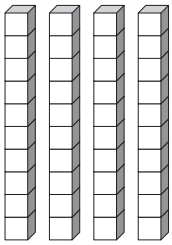


9 × 10 = ☐

A. ***90***

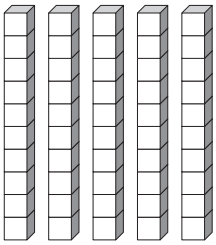
Count by 10s nine times:
10, 20, 30, 40, 50, 60, 70, 80, 90
OR
9 × 10
= 90 *add a zero to the 9*

a) Complete the multiplication.



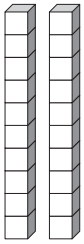
4 lots of ten = 40

b) Complete the multiplication.



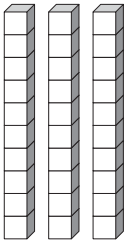
5 lots of ten = ☐

c) Complete the multiplication.



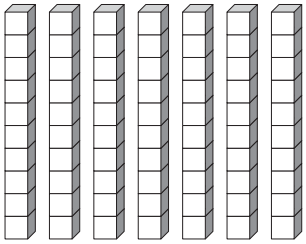
2 lots of ten = ☐

d) Complete the multiplication.



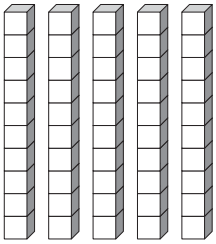
3 lots of ten = ☐

e) Complete the multiplication.



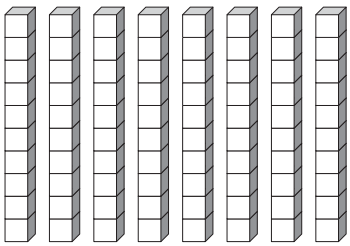
7 × 10 = ☐

f) Complete the multiplication.



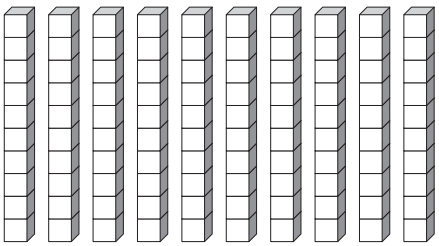
5 × 10 = ☐

g) Complete the multiplication.



8 × 10 = ☐

h) Complete the multiplication.



10 × 10 = ☐

Skill 4.9 Multiplying the numbers from 1 to 10 by using multiplication tables (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Follow the shaded lines from the numbers to be multiplied, moving down and across.
- Read the number where the shaded lines meet.

Q. Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$6 \times 10 =$ ☐

A. ***60***

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

a) Complete the multiplication.

×	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

$3 \times 5 =$ 15

b) Complete the multiplication.

×	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

$4 \times 3 =$ ☐

c) Complete the multiplication.

×	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

$4 \times 4 =$ ☐

d) Complete the multiplication.

×	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

$5 \times 2 =$ ☐

e) Complete the multiplication.

×	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

$2 \times 3 =$ ☐

f) Complete the multiplication.

×	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

$5 \times 5 =$ ☐

Skill 4.9 Multiplying the numbers from 1 to 10 by using multiplication tables (2).

g) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$5 \times 8 =$ ☐

h) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$2 \times 9 =$ ☐

i) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$4 \times 6 =$ ☐

j) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$6 \times 9 =$ ☐

k) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$8 \times 4 =$ ☐

l) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$7 \times 7 =$ ☐

m) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$3 \times 7 =$ ☐

n) Complete the multiplication.

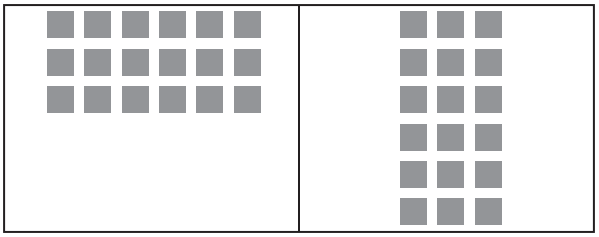
×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$9 \times 3 =$ ☐

Skill 4.10 Modelling the commutative property for multiplication by using arrays.

- Count the number of rows and the number of columns on both sides of the table.
  Hint: When multiplying two numbers, the order of the numbers can be reversed.

Q.

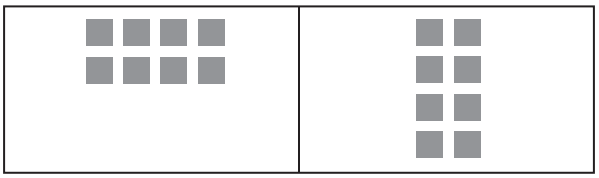


$3 \times \square = 6 \times 3$

A. $3 \times \mathbf{6} = 6 \times 3$

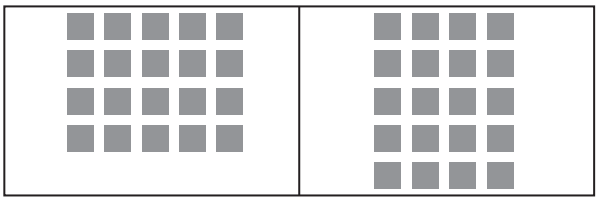
3 rows, 6 columns $\Rightarrow 3 \times 6 = 18$
6 rows, 3 columns $\Rightarrow 6 \times 3 = 18$
Equal number in array $\Rightarrow$ same result

a)



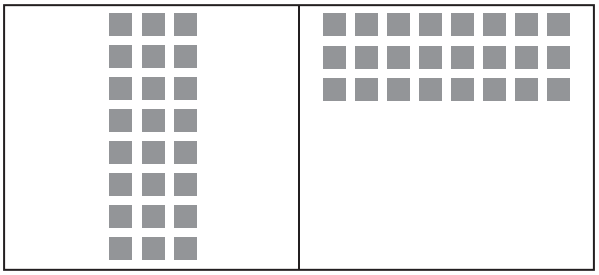
$2 \times \boxed{4} = 4 \times 2$

b)



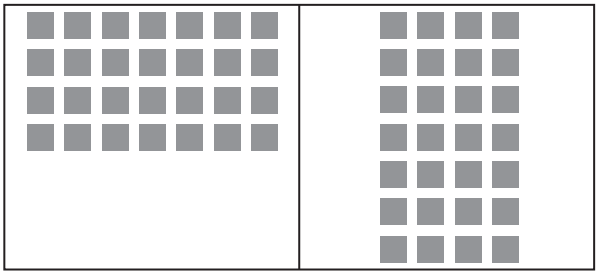
$4 \times 5 = \square \times 4$

c)



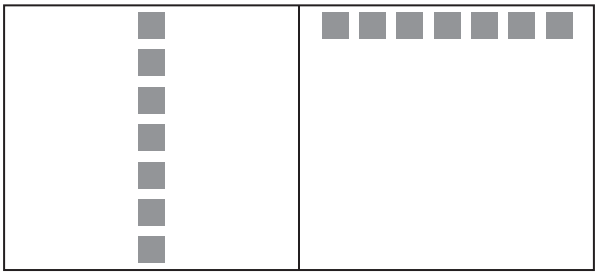
$8 \times \square = 3 \times 8$

d)



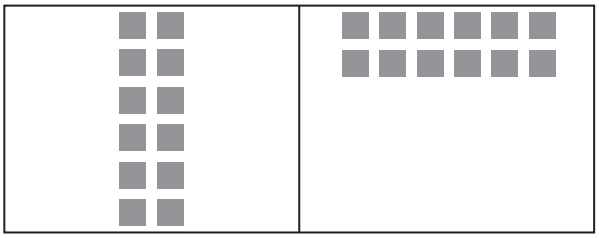
$4 \times 7 = \square \times 4$

e)



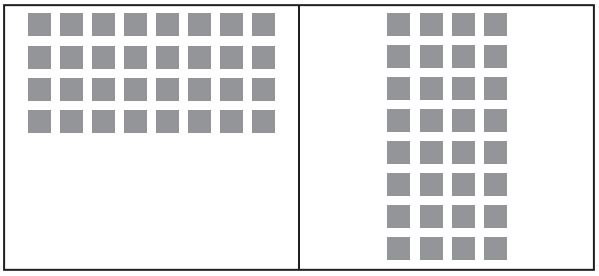
$7 \times \square = \square \times 7$

f)



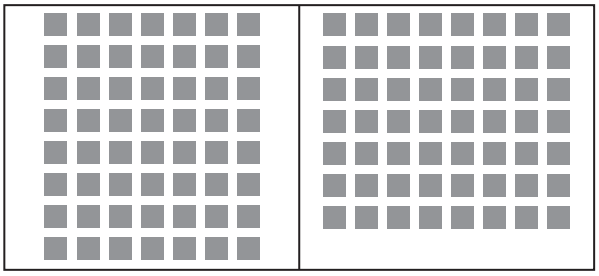
$\square \times 2 = 2 \times \square$

g)



$4 \times \square = \square \times 4$

h)



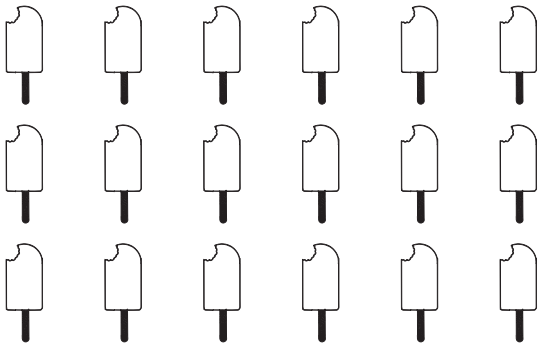
$\square \times 7 = 7 \times \square$

5. [Division]

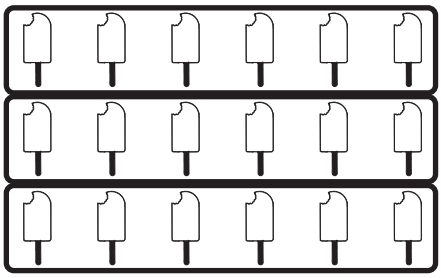
Skill 5.1 Arranging equal numbers of objects in groups.

- Determine if the number of objects needed in a group can be found on a full row or column.
- Try different ways to arrange the objects into equal groups.

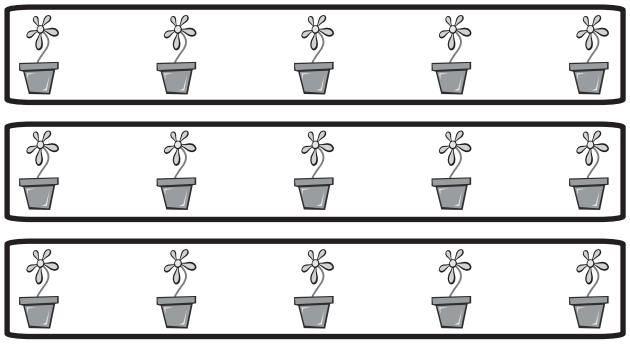
Q. Circle groups of 6 ice creams.



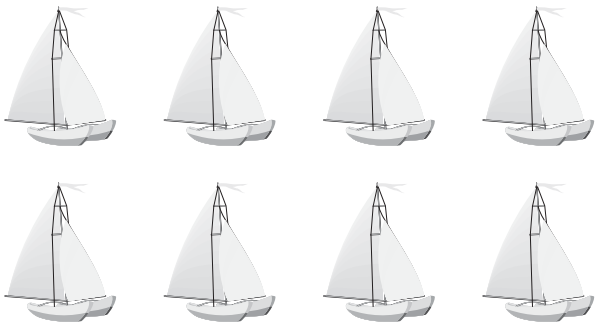
A.



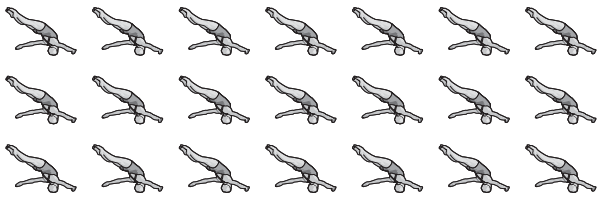
a) Circle groups of 5 pot plants.



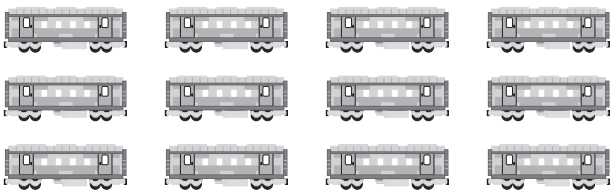
b) Circle groups of 4 boats.



c) Circle groups of 7 gymnasts.



d) Circle groups of 3 carriages.



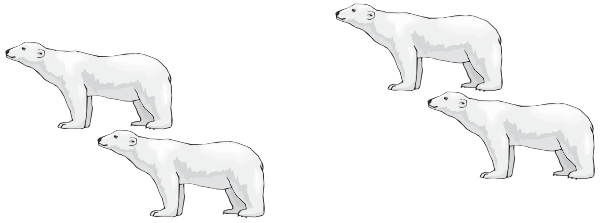
e) Circle groups of 6 ice skaters.

f) Circle groups of 2 helicopters.

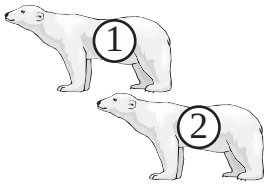
Skill 5.2 Counting objects in equal groups.

- Choose a group.
- Count the number of objects in the group.

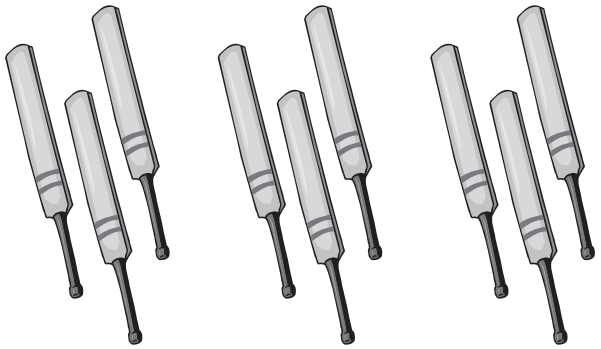
Q. How many bears in each group?



A. ***2***

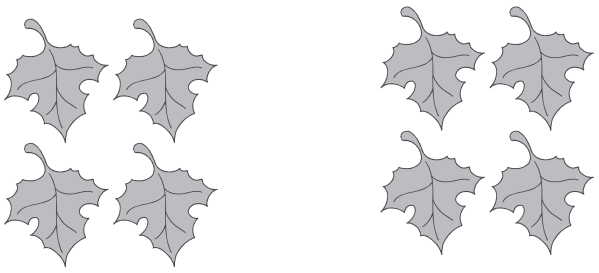


a) How many bats in each group?



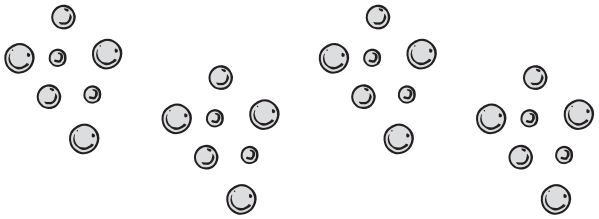
3

b) How many leaves in each group?



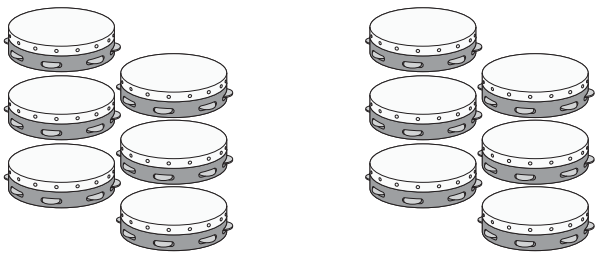
c) How many crayons in each group?

d) How many bubbles in each group?



e) How many buttons in each group?

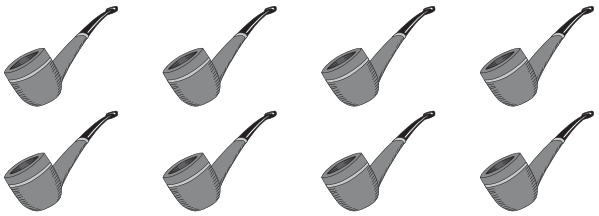
f) How many tambourines in each group?



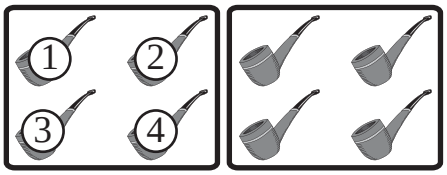
Skill 5.3 Dividing objects into equal groups (1).

- Try different ways to arrange the objects into equal groups.
- Count the number of objects in each group.

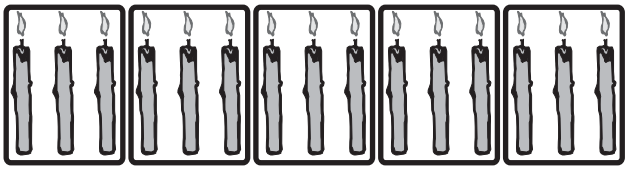
Q. Circle to divide 8 pipes into 2 equal groups. How many in each group?



A. ***4***

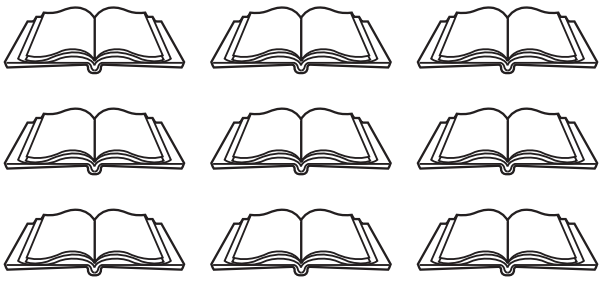


a) Circle to make 5 equal groups.

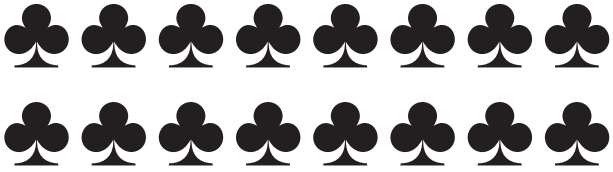


b) Circle to make 2 equal groups.

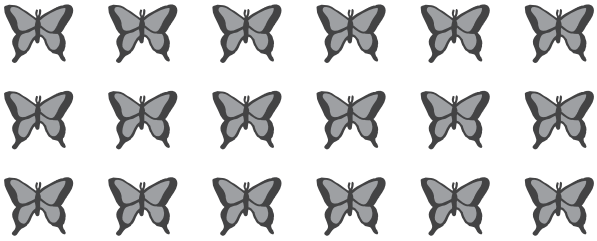
c) Circle to make 3 equal groups.



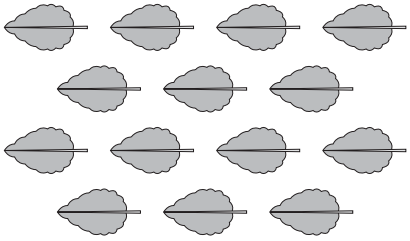
d) Circle to make 4 equal groups.



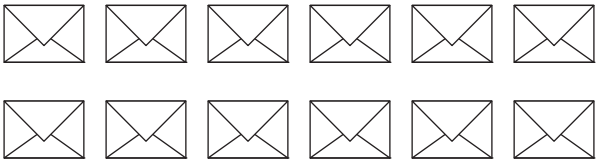
e) Circle to make 3 equal groups.



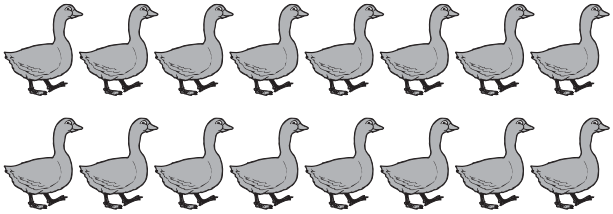
f) Circle to make 2 equal groups.



g) Circle to make 6 equal groups.



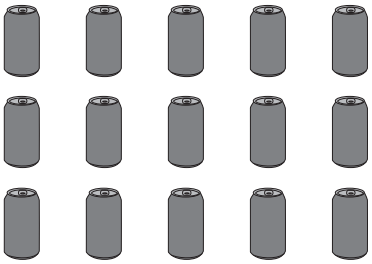
h) Circle to make 4 equal groups.



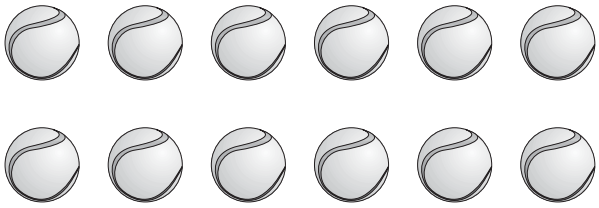
Skill 5.3 Dividing objects into equal groups (2).

i) Circle to divide 6 bows into 2 equal groups. How many in each group?

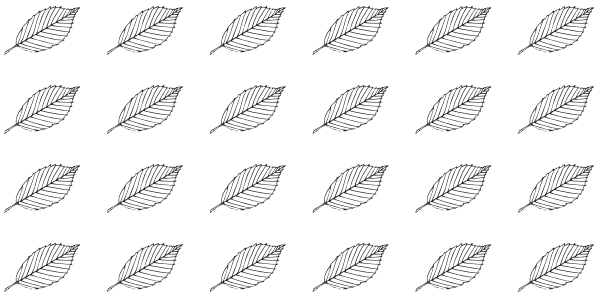
j) Circle to divide 15 cans into 3 equal groups. How many in each group?



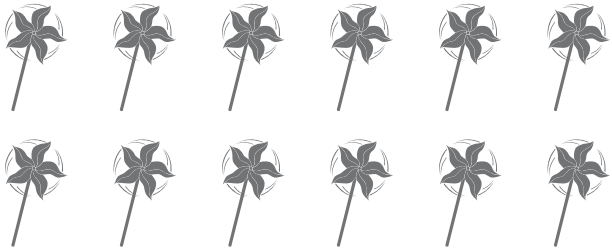
k) Circle to divide 12 tennis balls into 3 equal groups. How many in each group?



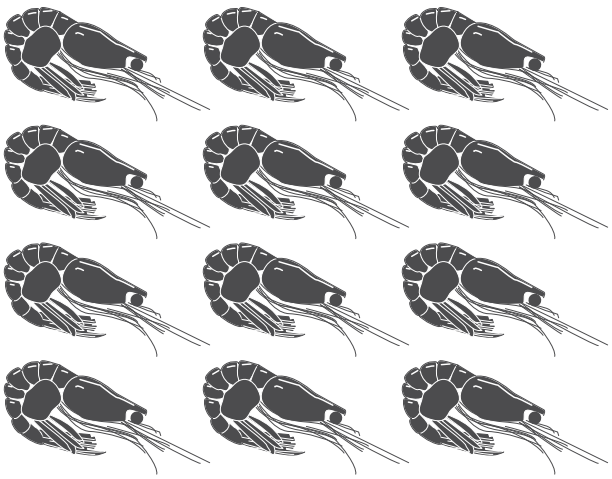
l) Circle to divide 24 leaves into 6 equal groups. How many in each group?



m) Circle to divide 12 pinwheels into 2 equal groups. How many in each group?



n) Circle to divide 12 prawns into 6 equal groups. How many in each group?

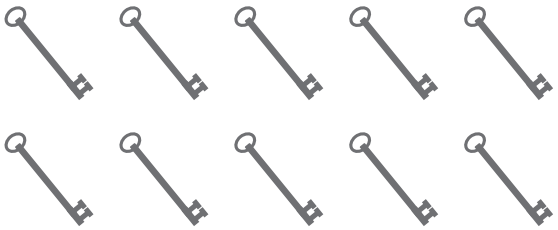


Skill 5.4 Modelling division by arranging objects in equal groups, by using pictures (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

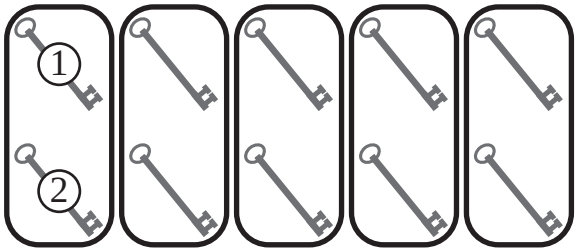
- Try different ways to arrange all the objects into equal groups.
- Count the number of objects in each group to complete the division.

Q. Circle to make 5 equal groups.



10 divided into 5 groups = ☐

A. *10 divided into 5 groups* = ***2***

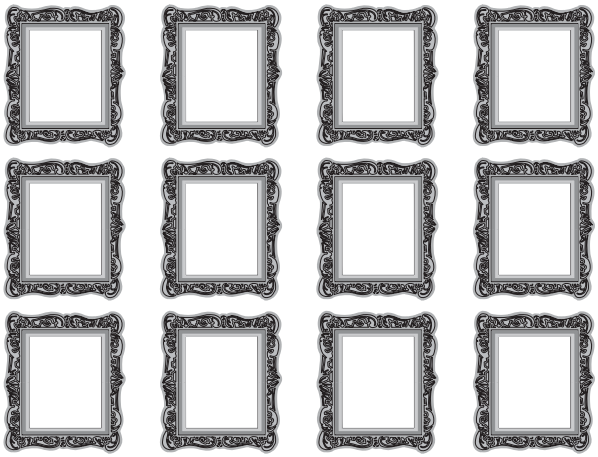


Group 1 Group 2 Group 3 Group 4 Group 5

a) Circle to make 4 equal groups.

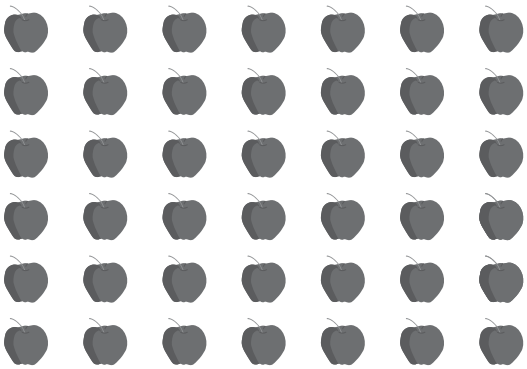
20 divided into 4 groups = 5

b) Circle to make 6 equal groups.



12 divided into 6 groups = ☐

c) Circle to make 7 equal groups.



42 divided into 7 groups =

42 ÷ 7 = ☐

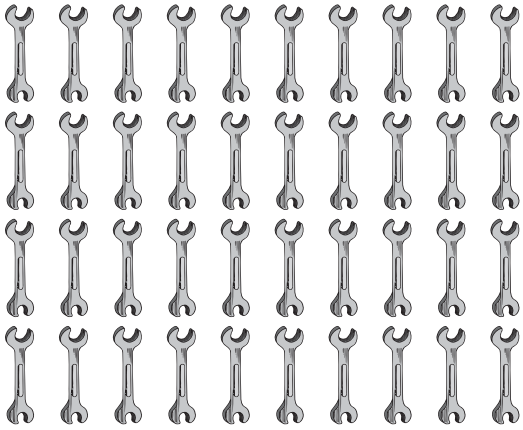
d) Circle to make 3 equal groups.

18 divided into 3 groups =

18 ÷ 3 = ☐

Skill 5.4 Modelling division by arranging objects in equal groups, by using pictures (2).

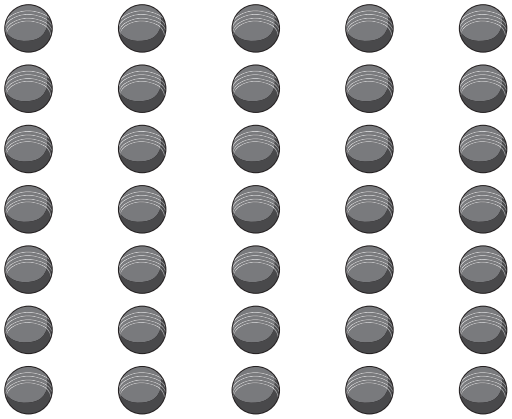
e) Circle to make 4 equal groups.



40 divided into 4 groups =

40 ÷ 4 = ☐

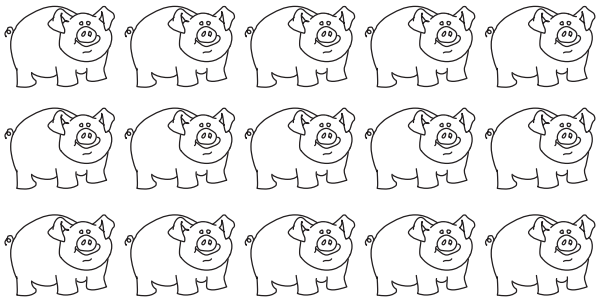
f) Circle to make 5 equal groups.



35 divided into 5 groups =

35 ÷ 5 = ☐

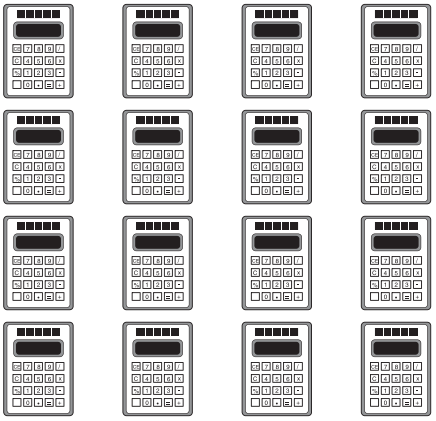
g) Circle to make 3 equal groups.



15 divided into 3 groups =

15 ÷ 3 = ☐

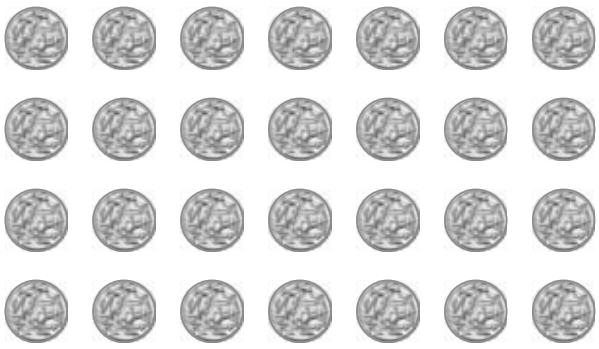
h) Circle to make 4 equal groups.



16 divided into 4 groups =

16 ÷ 4 = ☐

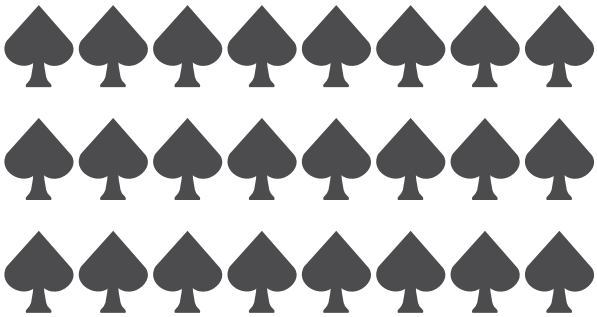
i) Circle to make 4 equal groups.



28 divided into 4 groups =

28 ÷ 4 = ☐

j) Circle to make 3 equal groups.



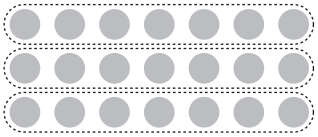
24 divided into 3 groups =

24 ÷ 3 = ☐

Skill 5.5 Modelling division by arranging objects in equal groups, by using arrays.

- Count the number of objects in each group to complete the division.

Q.



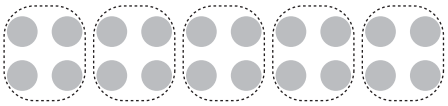
21 divided into 3 groups =

21 ÷ 3 = ☐

A. *21 ÷ 3 =* ***7***

There are 7 dots in each group.

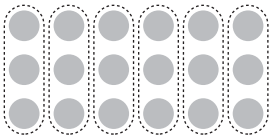
a)



20 divided into 5 groups =

20 ÷ 5 = 4

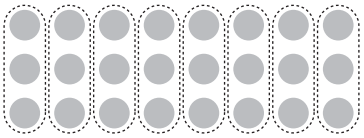
b)



18 divided into 6 groups =

18 ÷ 6 = ☐

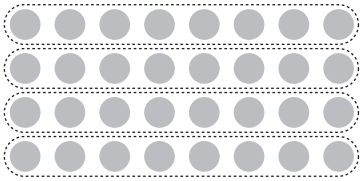
c)



24 divided into 8 groups =

24 ÷ 8 = ☐

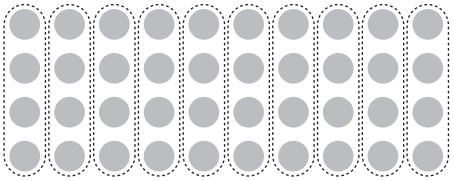
d)



32 divided into 4 groups =

32 ÷ 4 = ☐

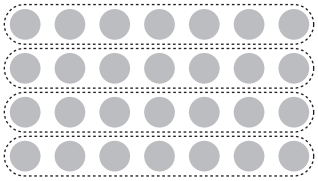
e)



40 divided into 10 groups =

☐ ÷ ☐ = ☐

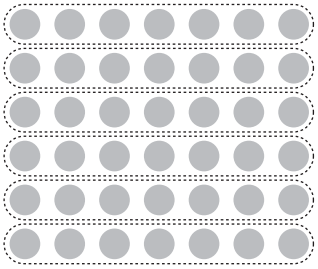
f)



28 divided into 4 groups =

☐ ÷ ☐ = ☐

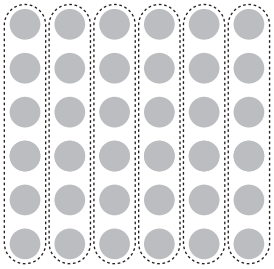
g)



42 divided into 6 groups =

☐ ÷ ☐ = ☐

h)



36 divided into 6 groups =

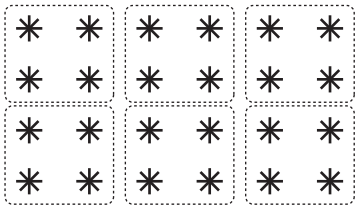
☐ ÷ ☐ = ☐

Skill 5.6 Modelling division by arranging an equal number of objects into groups, by using arrays (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Count the number of groups to complete the division.

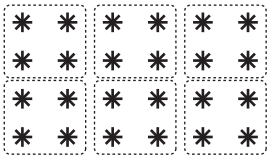
Q.



24 divided into groups of 4 =

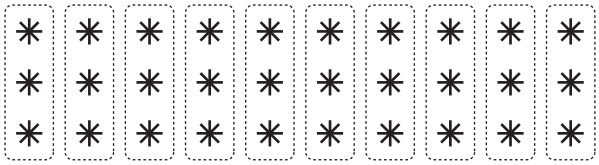
24 ÷ 4 = ☐

A. *24 ÷ 4 =* ***6***



There are 6 groups of 4 objects.

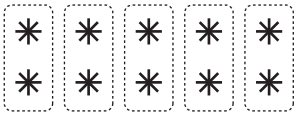
a)



30 divided into groups of 3 =

30 ÷ 3 = 10

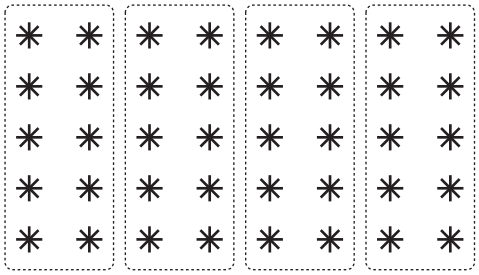
b)



10 divided into groups of 2 =

10 ÷ 2 = ☐

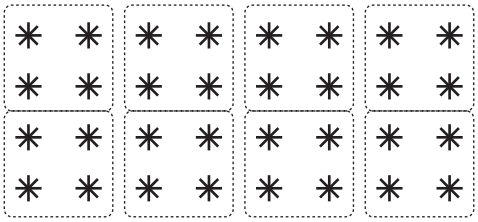
c)



40 divided into groups of 10 =

40 ÷ 10 = ☐

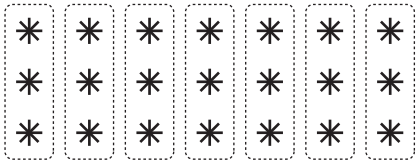
d)



32 divided into groups of 4 =

32 ÷ 4 = ☐

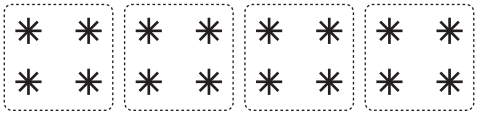
e)



21 divided into groups of 3 =

☐ ÷ ☐ = ☐

f)

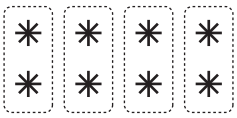


16 divided into groups of 4 =

☐ ÷ ☐ = ☐

Skill 5.6 Modelling division by arranging an equal number of objects into groups, by using arrays (2).

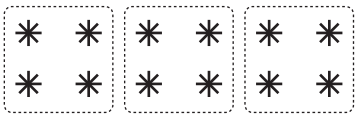
g)



8 divided into groups of 2 =

□ ÷ □ = □

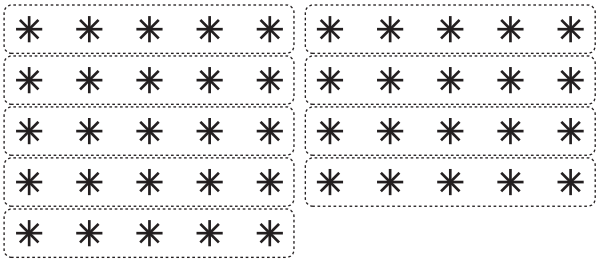
h)



12 divided into groups of 4 =

□ ÷ □ = □

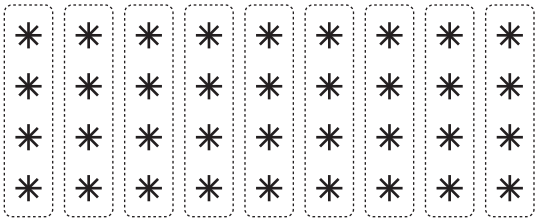
i)



45 divided into groups of 5 =

□ ÷ □ = □

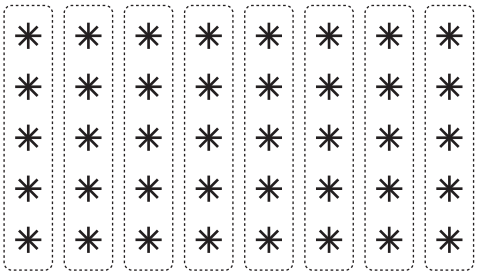
j)



36 divided into groups of 4 =

□ ÷ □ = □

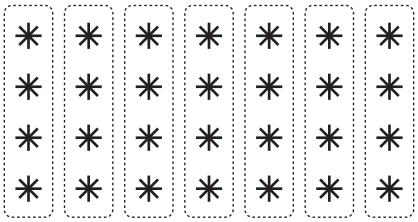
k)



40 divided into groups of 5 =

□ ÷ □ = □

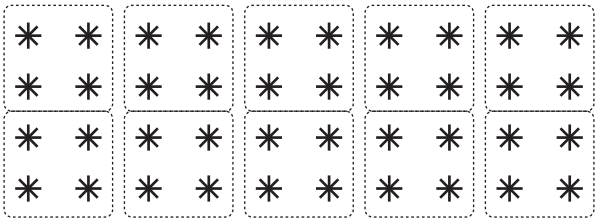
l)



28 divided into groups of 4 =

□ ÷ □ = □

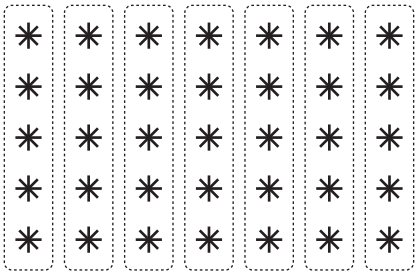
m)



40 divided into groups of 4 =

□ ÷ □ = □

n)



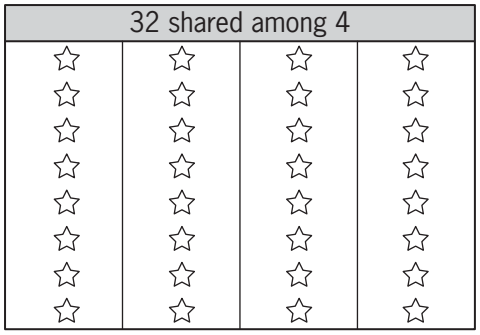
35 divided into groups of 5 =

□ ÷ □ = □

Skill 5.7 Modelling division by the numbers from 1 to 10, by sharing objects.

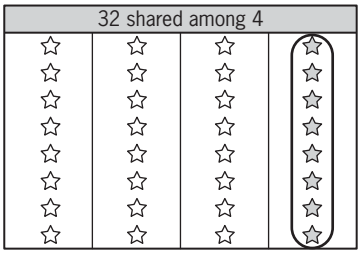
- Count the number of objects in each column to complete the division.

Q. Complete the division.



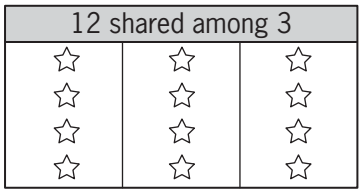
32 ÷ 4 = ☐

A. *32 ÷ 4 =* ***8***



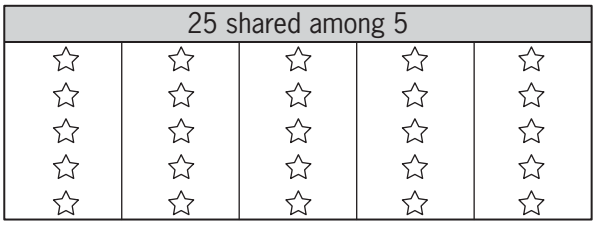
There are 8 stars in each column.

a) Complete the division.



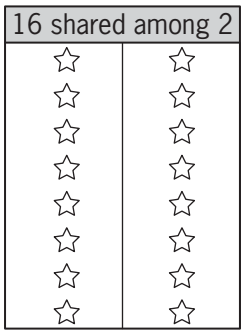
12 ÷ 3 = 4

b) Complete the division.



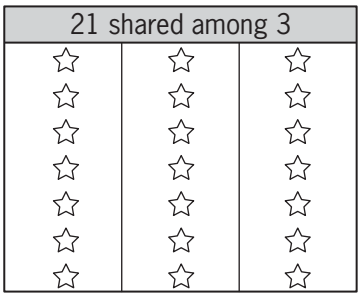
25 ÷ 5 = ☐

c) Complete the division.



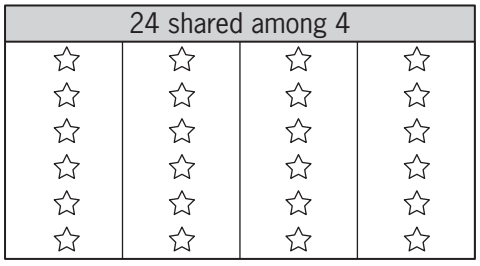
16 ÷ 2 = ☐

d) Complete the division.



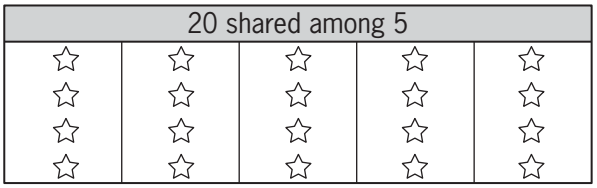
21 ÷ 3 = ☐

e) Complete the division.



24 ÷ 4 = ☐

f) Complete the division.



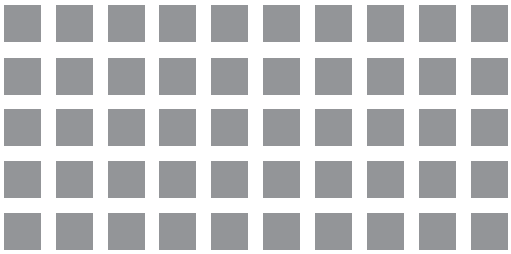
20 ÷ 5 = ☐

Skill 5.8 Modelling division by the numbers from 1 to 10, by using arrays (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Look at the number you divide by.
- Circle squares to make that number of equal groups.
- Count the number of squares in each group to complete the division.

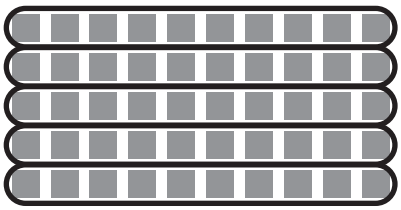
Q. Circle to complete the division.



50 ÷ 5 = ☐

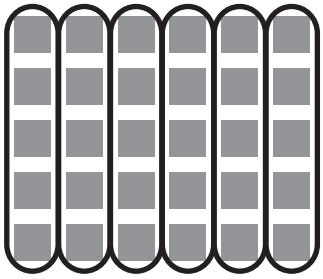
A. *50 ÷ 5* = ***10***

the number you divide by



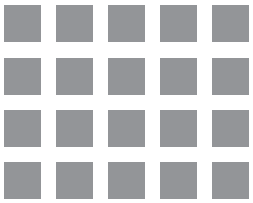
There are 10 squares in each group.

a) Circle to complete the division.



30 ÷ 6 = 5

b) Circle to complete the division.

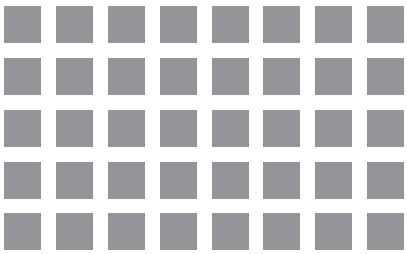


20 ÷ 4 = ☐

c) Circle to complete the division.

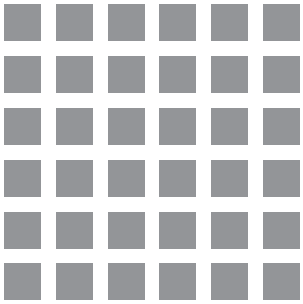
20 ÷ 2 = ☐

d) Circle to complete the division.



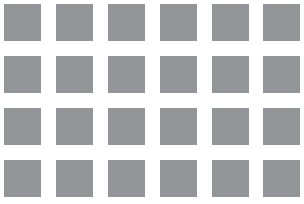
40 ÷ 5 = ☐

e) Circle to complete the division.



36 ÷ 6 = ☐

f) Circle to complete the division.

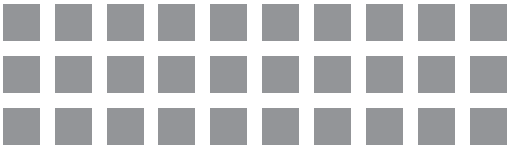


24 ÷ 6 = ☐

Skill 5.8 Modelling division by the numbers from 1 to 10, by using arrays (2).

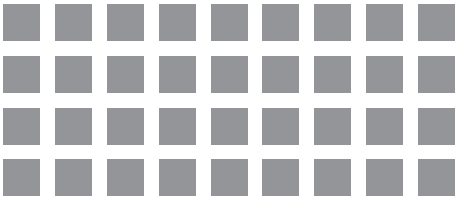
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

g) Circle to complete the division.



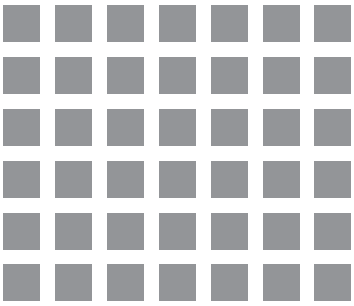
30 ÷ 10 = ☐

h) Circle to complete the division.



36 ÷ 9 = ☐

i) Circle to complete the division.



42 ÷ 7 = ☐

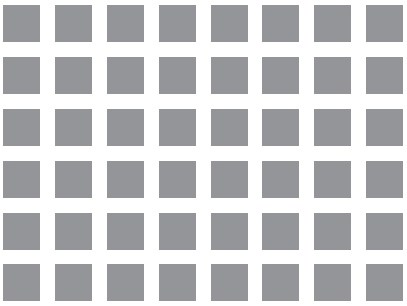
j) Circle to complete the division.

27 ÷ 3 = ☐

k) Circle to complete the division.

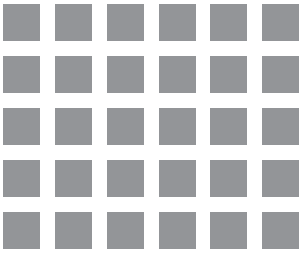
14 ÷ 2 = ☐

l) Circle to complete the division.



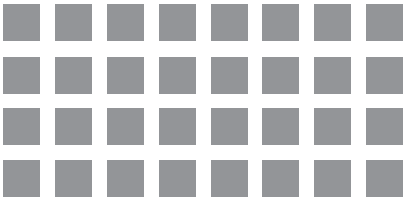
48 ÷ 6 = ☐

m) Circle to complete the division.



30 ÷ 5 = ☐

n) Circle to complete the division.



32 ÷ 4 = ☐

Skill 5.9 Modelling facts for division by using arrays.

Division - opposite of multiplication

- Notice the arrangement of numbers in both the multiplication and division.
- Count the dots in each group to complete the division.

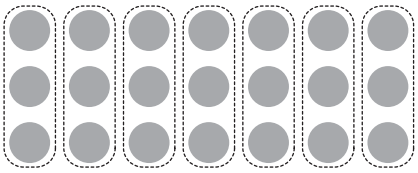
Division - opposite of repetitive addition

- Count the number of repetitive additions to complete the division.

OR

- Count the number of groups.

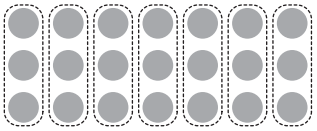
Q.



3 + 3 + 3 + 3 + 3 + 3 + 3 = 21

21 ÷ 3 = ☐

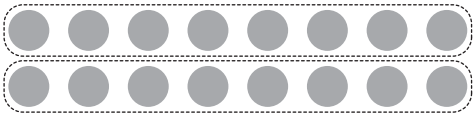
A. *21 ÷ 3 =* ***7***



1 2 3 4 5 6 7

There are 7 groups of 3.

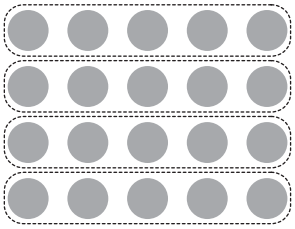
a)



2 × 8 = 16

16 ÷ 2 = 8

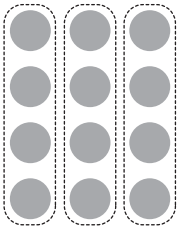
b)



4 × 5 = 20

20 ÷ 4 = ☐

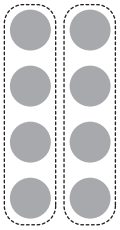
c)



4 + 4 + 4 = 12

12 ÷ 4 = ☐

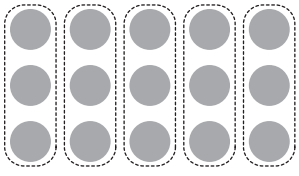
d)



4 + 4 = 8

8 ÷ 4 = ☐

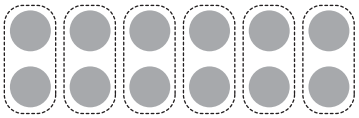
e)



3 + 3 + 3 + 3 + 3 = 15

15 ÷ 3 = ☐

f)



2 + 2 + 2 + 2 + 2 + 2 = 12

12 ÷ 2 = ☐

6. [+ Whole Number]

Skill 6.1 Understanding different terms for addition.

MM3 1 1 22 33 44
MM4 11 22 33 44

- Consider the words used with the numbers.
  Addition is associated with words like: *add on, and, plus, sum of, total of, increasing by, more than.*

Q. The sum of 7 and 2 is **A.** $7 + 2 = 9$

'sum of' means adding

a) 6 add on 8 is 14

b) 3 and 8 makes

c) 3 plus 4 equals

d) 8 and 8 makes

e) 4 plus 7 equals

f) 9 add on 5 is

g) 5 add on 8 is

h) The sum of 3 and 5 is

i) 2 and 6 makes

j) 4 plus 5 equals

k) Increasing 8 by 5 is

l) 9 more than 3 equals

m) The total of 3 and 6 is

n) 7 add on 3 is

o) The sum of 9 and 8 is

p) 10 and 6 makes

q) 7 plus 8 is

r) The sum of 4 and 9 is

s) 10 add on 9 is

t) 9 and 9 makes

Skill 6.2 Adding the numbers from 1 to 10 by counting on, using your fingers or pencil marks.

- Start with the largest number.
- Count on the smaller number using your fingers or pencil marks.

Q.

	3	5	6	8	9
+ 6					

A.

	3	5	6	8	9
+ 6	***9***	***11***	***12***	***14***	***15***

6 counting on 3

OR

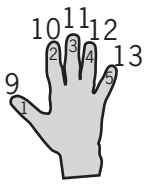
6 counting on 3

7, 8, 9

Start with the largest number, 6.
Count on 3 more.
6 + 3 = 9

a) 8 + 5 = 13

8 counting on 5



b) 7 + 7 = ☐ 7 counting on...

c) 4 + 5 = ☐

d) 3 + 8 = ☐

e) 9 + 2 = ☐

f) 1 + 4 = ☐

g) 4 + 8 = ☐

h) 6 + 7 = ☐

i)

	6	8	3	5	9
+ 2					

j)

	3	5	7	2	6
+ 8					

k)

	2	9	3	8	6
+ 3					

l)

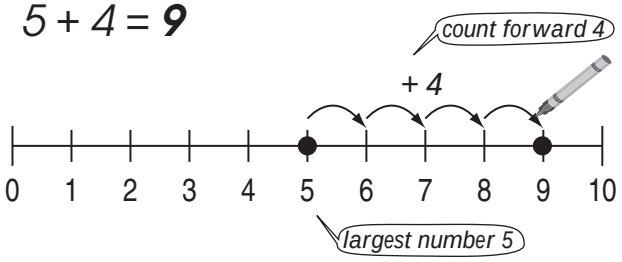
	6	5	4	8	1
+ 4					

Skill 6.3 Adding the numbers from 1 to 10 by counting forwards on a number line.

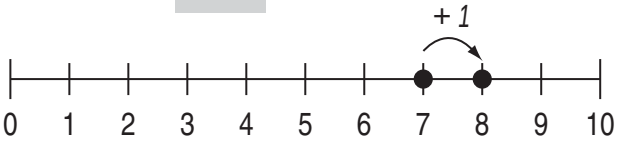
- Mark the largest number in the sum on the number line.
- Use your pencil to count forwards the smallest number.

Q. $5 + 4 =$ ☐

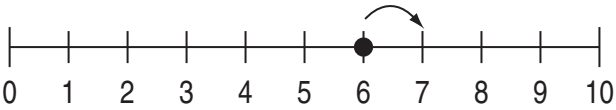
A. $5 + 4 = \mathbf{9}$



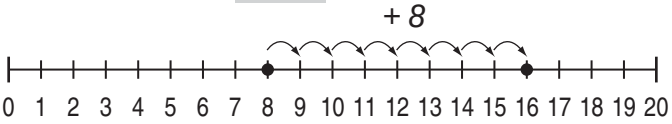
a) $1 + 7 =$ 8



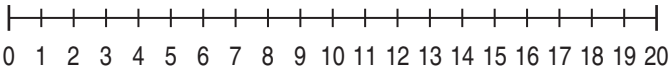
b) $6 + 3 =$ ☐



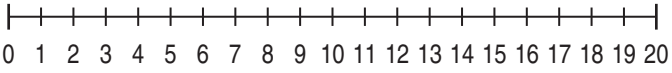
c) $8 + 8 =$ ☐



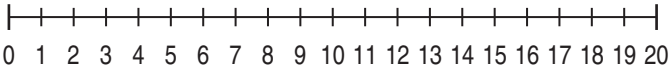
d) $9 + 5 =$ ☐



e) $4 + 7 =$ ☐

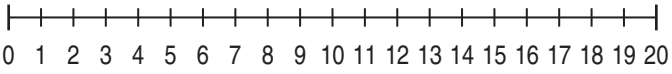


f) $6 + 6 =$ ☐



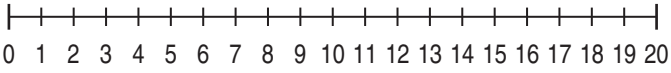
g)

	1	5	7	2	8
+ 3					



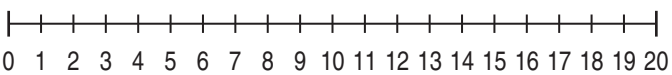
h)

	2	8	9	3	6
+ 7					



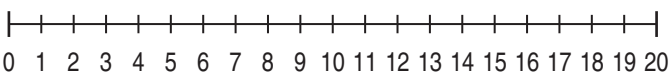
i)

	3	7	9	4	2
+ 8					



j)

	4	8	9	5	1
+ 9					



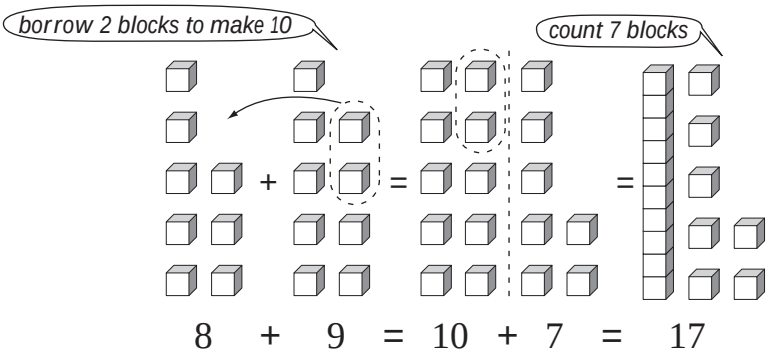
Skill 6.4 Adding the numbers from 1 to 10 by using base 10 blocks.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

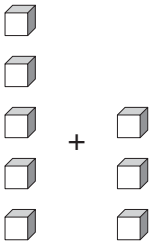
- Use blocks to represent both numbers.
- Borrow blocks from the second number to make the first number a ten, if possible. Add to this ten the remaining blocks to complete the addition.
- Count the number of blocks.

Q. 8 + 9 = ☐

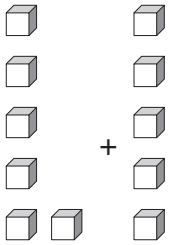
A. *8 + 9 =* ***17***



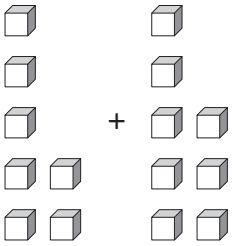
a) 5 + 3 = 8



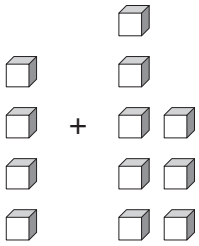
b) 6 + 5 = ☐



c) 7 + 8 = ☐



d) 4 + 8 = ☐



e)

	3	5	7	2	1
+ 2					

f)

	3	7	8	5	6
+ 9					

g)

	4	6	7	9	5
+ 5					

h)

	9	2	5	3	6
+ 6					

Skill 6.5 Adding the numbers from 1 to 10 by first making 10.

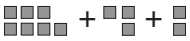
- Work out what number you need to add to the largest number to make 10.
- Break down the smaller number to include the number you need.
- Add the two numbers that make 10, and then complete the addition.

Q.

	5	3	2	8	6
+ 7					

A.

	5	3	2	8	6
+ 7	***12***	***10***	***9***	***15***	***13***

$7 + (5) =$
$= 7 + (3 + 2)$

$= (7 + 3) + 2$
$= 10 + 2$
$= \mathbf{12}$

a) $6 + 9 =$

$= 9 + (1 + 5)$

$= (9 + 1) + 5$

$10 + 5 =$ 15

b) $9 + 4 =$

c) $5 + 7 =$

d) $9 + 9 =$

e) $7 + 9 =$

f) $6 + 8 =$

g)

	3	5	8	2	7
+ 4					

h)

	6	3	9	7	2
+ 6					

i)

	1	6	4	9	5
+ 5					

j)

	7	8	3	5	9
+ 8					

Skill 6.6 Recognising and adding numbers that add to 20.

Numbers that add to 20:

10	11	12	13	14	15	16	17	18	19	20
|	|	|	|	|	|	|	|	|	|	|
10	9	8	7	6	5	4	3	2	1	0

Q. 15 + 5 = ☐ **A.** *15 + 5 =* ***20***

a) 12 + 8 = 20 **b)** 6 + 14 = ☐

c) 17 + 3 = ☐ **d)** 9 + 11 = ☐

e) 16 + 4 = ☐ **f)** 7 + 13 = ☐

g) 1 + 19 = ☐ **h)** 4 + 16 = ☐

i) 14 + 6 = ☐ **j)** 5 + 15 = ☐

k) 3 + 17 = ☐ **l)** 11 + 9 = ☐

m) 18 + 2 = ☐ **n)** 8 + 12 = ☐

o) 19 + 1 = ☐ **p)** 13 + 7 = ☐

q) 2 + 18 = ☐ **r)** 10 + 10 = ☐

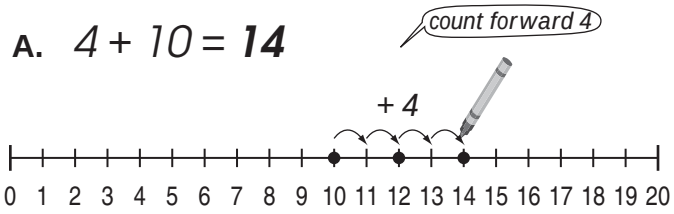
Skill 6.7 Adding 10.

Adding 10 to a single digit number
- Mark 10 on the number line.
- Use your pencil to count forwards the single digit number.

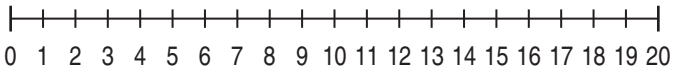
Adding 10 to a double digit number
- Keep the units digit of the double digit number.
- Add 1 to the tens digit of the double digit number.

Q. 4 + 10 = ☐

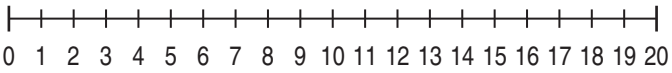
A. *4 + 10* = ***14***



a) 10 + 3 = 13



b) 5 + 10 = 15



c) 8 + 10 = 18

d) 10 + 10 = ☐

e) 9 + 10 = ☐

f) 10 + 7 = ☐

g) 10 + 6 = ☐

h) 3 + 10 = ☐

i) 14 + 10 = ☐

j) 10 + 18 = ☐

k) 10 + 17 = ☐

l) 27 + 10 = ☐

m) 25 + 10 = ☐

n) 10 + 22 = ☐

o) 26 + 10 = ☐

p) 31 + 10 = ☐

q) 36 + 10 = ☐

r) 10 + 34 = ☐

Skill 6.8 Adding numbers by using columns, no carry (1).

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Add from right to left.

Q.

$$\begin{array}{r} 16 \\ +\ 42 \\ \hline \square \end{array}$$

A.

tens	units
1	6
+ 4	2
5	**8**

Units first!

Units:
6 + 2 = 8 ⇒ 8 units

Tens:
1 + 4 = 5 ⇒ 5 tens

a)

$$\begin{array}{r} 32 \\ +\ 27 \\ \hline 59 \end{array}$$

Units first!

b)

$$\begin{array}{r} 25 \\ +\ 51 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 17 \\ +\ 42 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 18 \\ +\ 31 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 43 \\ +\ 12 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 37 \\ +\ 21 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 26 \\ +\ 43 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 60 \\ +\ 28 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 30 \\ +\ 56 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 11 \\ +\ 23 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 55 \\ +\ 32 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 25 \\ +\ 34 \\ \hline \square \end{array}$$

m)

$$\begin{array}{r} 32 \\ +\ 44 \\ \hline \square \end{array}$$

n)

$$\begin{array}{r} 50 \\ +\ 13 \\ \hline \square \end{array}$$

o)

$$\begin{array}{r} 47 \\ +\ 51 \\ \hline \square \end{array}$$

Skill 6.8 Adding numbers by using columns, no carry (2).

p)
$$\begin{array}{r} 13 \\ 16 \\ +\,20 \\ \hline \square\square \end{array}$$

q)
$$\begin{array}{r} 23 \\ 24 \\ +\,31 \\ \hline \square\square \end{array}$$

r)
$$\begin{array}{r} 35 \\ 22 \\ +\,11 \\ \hline \square\square \end{array}$$

s)
$$\begin{array}{r} 12 \\ 24 \\ +\,43 \\ \hline \square\square \end{array}$$

t)
$$\begin{array}{r} 30 \\ 32 \\ +\,23 \\ \hline \square\square \end{array}$$

u)
$$\begin{array}{r} 20 \\ 55 \\ +\,14 \\ \hline \square\square \end{array}$$

v)
$$\begin{array}{r} 305 \\ +\,284 \\ \hline \square\square\square \end{array}$$

w)
$$\begin{array}{r} 162 \\ +\,331 \\ \hline \square\square\square \end{array}$$

x)
$$\begin{array}{r} 470 \\ +\,126 \\ \hline \square\square\square \end{array}$$

y)
$$\begin{array}{r} 341 \\ +\,455 \\ \hline \square\square\square \end{array}$$

z)
$$\begin{array}{r} 247 \\ +\,401 \\ \hline \square\square\square \end{array}$$

A)
$$\begin{array}{r} 130 \\ +\,269 \\ \hline \square\square\square \end{array}$$

B)
$$\begin{array}{r} 523 \\ +\,142 \\ \hline \square\square\square \end{array}$$

C)
$$\begin{array}{r} 286 \\ +\,511 \\ \hline \square\square\square \end{array}$$

D)
$$\begin{array}{r} 304 \\ +\,352 \\ \hline \square\square\square \end{array}$$

E)
$$\begin{array}{r} 283 \\ +\,215 \\ \hline \square\square\square \end{array}$$

F)
$$\begin{array}{r} 435 \\ +\,164 \\ \hline \square\square\square \end{array}$$

G)
$$\begin{array}{r} 253 \\ +\,602 \\ \hline \square\square\square \end{array}$$

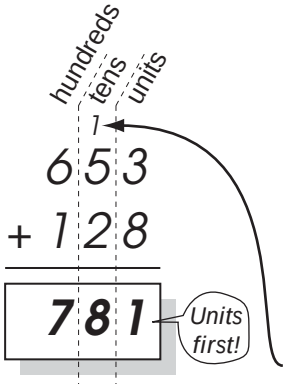
Skill 6.9 Adding numbers by using columns, with carry (1).

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Add from right to left.

Q.

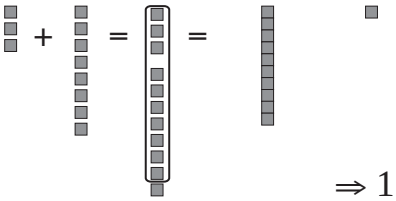
$$\begin{array}{r} 653 \\ +\ 128 \\ \hline \square \end{array}$$

A.



Units:

3 + 8 = 11 = 1 ten + 1 unit



⇒ 1 unit

Carry over the 1 ten to the tens column.

Tens:

5 + 2 + 1 (carry over) = 8 ⇒ 8 tens

Hundreds:

6 + 1 = 7 ⇒ 7 hundreds

a)

$$\begin{array}{r} {\scriptstyle 1} \\ 25 \\ +\ 28 \\ \hline 53 \end{array}$$ Units first!

b)

$$\begin{array}{r} {\scriptstyle 1} \\ 43 \\ +\ 29 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 28 \\ +\ 16 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 34 \\ +\ 27 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 36 \\ +\ 19 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 27 \\ +\ 38 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 28 \\ +\ 14 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 35 \\ +\ 39 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 25 \\ +\ 57 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 234 \\ +\ 556 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 463 \\ +\ 319 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 428 \\ +\ 305 \\ \hline \square \end{array}$$

Skill 6.9 Adding numbers by using columns, with carry (2).

m) 356 + 137 = ☐

n) 145 + 293 = ☐

o) 253 + 674 = ☐

p) 462 + 184 = ☐

q) 476 + 151 = ☐

r) 354 + 267 = ☐

s) 225 + 478 = ☐

t) 146 + 459 = ☐

u) 517 + 288 = ☐

v) 468 + 183 = ☐

w) 375 + 286 = ☐

x) 337 + 369 = ☐

y) 284 + 158 = ☐

z) 283 + 157 = ☐

A) 149 + 361 = ☐

B) 467 + 234 = ☐

C) 396 + 508 = ☐

D) 185 + 679 = ☐

7. [– Whole Number]

Skill 7.1 Understanding different terms for subtraction.

MM3 1 1 22 33 44
MM4 1 1 22 33 44

- Consider the words used with the numbers.
  Subtraction is associated with words like: *minus, difference between, take away, subtract, less than, decreasing by.*

Q. The difference between 17 and 8 is

A. $17 - 8 = 9$

'difference between' means subtracting

a) 11 minus 3 is 8

b) 14 minus 9 is

c) The difference between 14 and 8 is

d) The difference between 16 and 10 is

e) The difference between 14 and 2 is

f) The difference between 13 and 5 is

g) 9 take away 4 is

h) 15 take away 9 is

i) 13 take away 6 is

j) 11 minus 7 is

k) 15 minus 8 is

l) 18 minus 9 is

m) 15 minus 6 is

n) 8 subtract 4 is

o) 17 subtract 9 is

p) 14 subtract 8 is

q) 11 subtract 6 is

r) 15 subtract 4 is

s) The difference between 7 and 4 is

t) 11 subtract 4 is

Skill 7.2 Subtracting the numbers from 1 to 10 by counting backwards, using your fingers or pencil marks.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Start with the first number given.
- Count backwards the smaller number using your fingers or pencil marks.

Q.

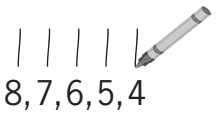
	9	6	8	12	10
– 5					

A.

	9	6	8	12	10
– 5	***4***	***1***	***3***	***7***	***5***

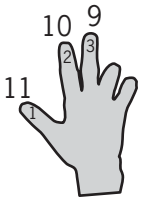
9 counting back 5 9 counting back 5

OR



Start with the first number given, 9.
Count backwards 5.
9 – 5 = 4

12 counting back 3



a) 12 – 3 = 9

b) 14 – 9 = ☐ 14 counting back...

c) 11 – 4 = ☐

d) 15 – 7 = ☐

e) 15 – 9 = ☐

f) 13 – 4 = ☐

g) 21 – 7 = ☐

h) 32 – 7 = ☐

i)

	8	10	7	11	12
– 3					

j)

	10	3	5	9	6
– 2					

k)

	7	10	12	9	11
– 4					

l)

	8	12	7	14	10
– 5					

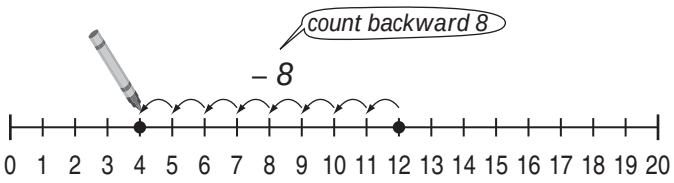
Skill 7.3 Subtracting the numbers from 1 to 10 by counting backwards on a number line.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Mark the first number in the subtraction on the number line.
- Use your pencil to count backwards the second number.

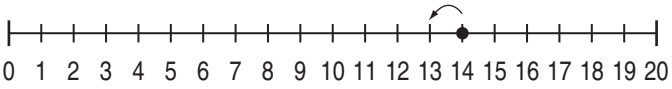
Q. 12 – 8 = ☐

A. *12 – 8 =* ***4***

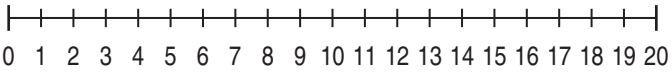


a) 11 – 5 = 6

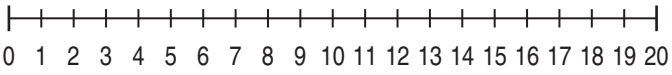
b) 14 – 6 = ☐



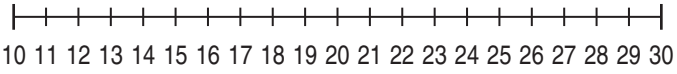
c) 12 – 7 = ☐



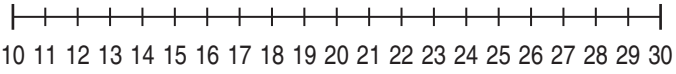
d) 17 – 8 = ☐



e) 24 – 9 = ☐

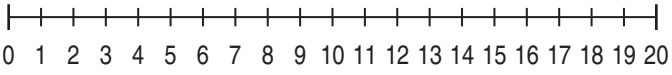


f) 21 – 5 = ☐



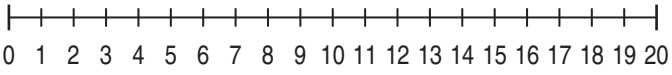
g)

	5	3	9	6	7
– 2					



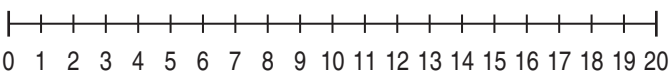
h)

	12	9	8	13	10
– 6					



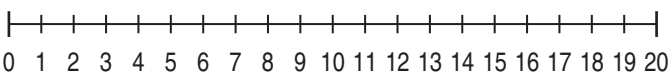
i)

	11	14	13	9	16
– 8					



j)

	9	11	15	10	12
– 7					



Skill 7.4 Subtracting the numbers from 1 to 10 from 2-digit numbers, by first moving backwards to the nearest 10.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

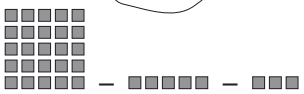
- Look at the unit value of the two-digit number.
- Break down the single digit number to include this number and the remainder.
- Subtract the number from the two-digit number giving 10, 20, 30 or 40 as the result.
- Then subtract the remainder from 10.

Q. 25 – 8 = ☐

A. *25 – 8 =* ***17***

25 – (8) = The unit value of 25 is 5. You need a 5.

= 25 – (5 – 3) Breakdown 8 into 5 and 3. 5 + 3 = 8



= (25 – 5) – 3 Subtract 5 from 25 to get 20.

= 20 – 3 Subtract 3 from 20.

= 17

a) 12 – 6 =

= 12 – 2 – 4

= 12 – 2 – 4

10 – 4 = 6

b) 13 – 7 = ☐

c) 18 – 9 = ☐

d) 13 – 9 = ☐

e) 22 – 8 = ☐

f) 31 – 5 = ☐

g) 25 – 7 = ☐

h) 44 – 6 = ☐

i) 35 – 6 = ☐

j)

	12	9	13	15	11
– 7					

k)

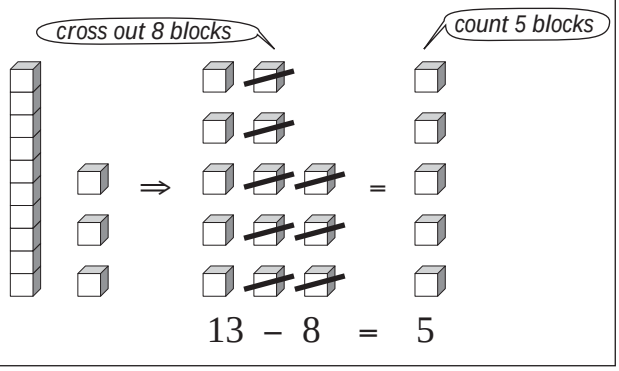
	9	14	17	15	12
– 8					

Skill 7.5 Subtracting the numbers from 1 to 10 from 2-digit numbers, by trading with base 10 blocks.

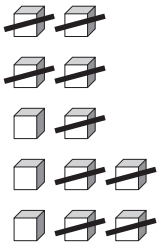
- Use blocks to represent the first number.
- Cross out a number of blocks equal to the second number.
- Count the remaining blocks to complete the subtraction.

Q. 13 – 8 = ☐

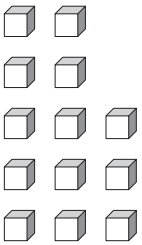
A. *13 – 8* = ***5***



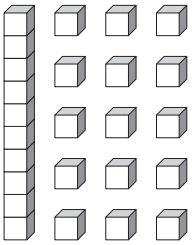
a) 12 – 9 = 3



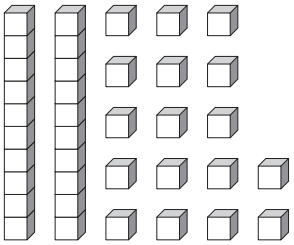
b) 13 – 7 = ☐



c) 25 – 6 = ☐



d) 37 – 9 = ☐



e)

	6	2	4	8	5
– 1					

f)

	9	11	7	10	5
– 3					

g)

	10	8	12	9	14
– 5					

h)

	13	17	15	11	12
– 9					

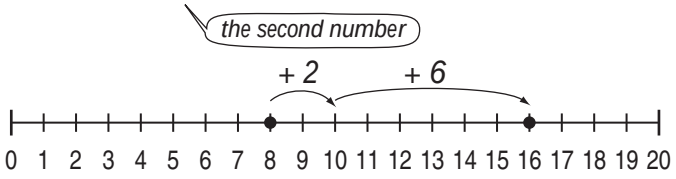
Skill 7.6 Subtracting the numbers from 1 to 10 by first building up to the nearest 10 on a number line.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Mark the second number in the subtraction on the number line.
- Count forwards to the nearest 10, 20, 30 or 40 on the number line.
- Then count on to the first number on the number line.
- Add the total number of places you moved on the number line to complete the subtraction.

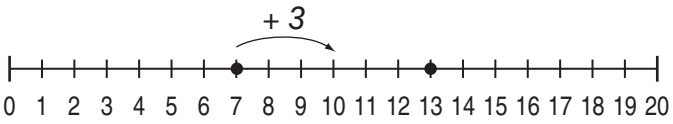
Q. 16 – 8 = ☐

A. *16 – 8* = ***8***

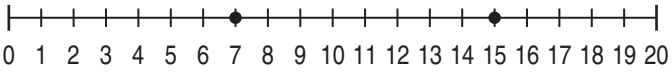


Start at 8.
Count forwards 2 places to 10.
Count on 6 places to 16.
2 + 6 = 8 places

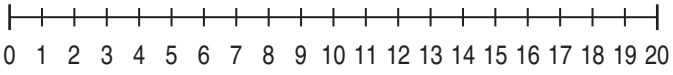
a) 13 – 7 = 6



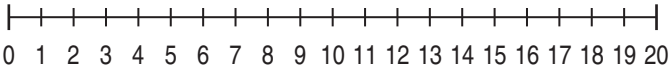
b) 15 – 7 = ☐



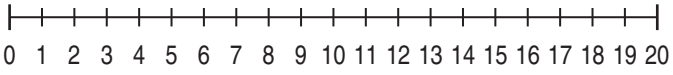
c) 17 – 9 = ☐



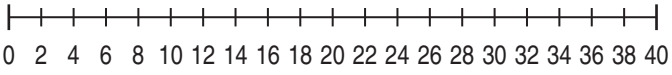
d) 11 – 6 = ☐



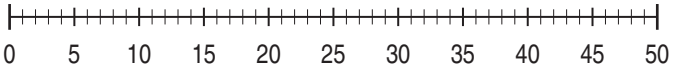
e) 12 – 3 = ☐



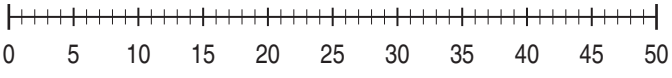
f) 24 – 6 = ☐



g) 33 – 7 = ☐



h) 45 – 8 = ☐



i)

	9	11	14	12	8
– 5					

j)

	12	9	10	7	11
– 3					

Skill 7.7 Subtracting numbers by using columns, no carry (1).

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Subtract from right to left.

Q.

$$\begin{array}{r} 536 \\ -\ 124 \\ \hline \square \end{array}$$

A.

hundreds | tens | units

$$\begin{array}{r} 536 \\ -\ 124 \\ \hline 412 \end{array}$$

Units first!

Units:
$6 - 4 = 2 \Rightarrow$ 2 units

Tens:
$3 - 2 = 1 \Rightarrow$ 1 ten

Hundreds:
$5 - 1 = 4 \Rightarrow$ 4 hundreds

a)

$$\begin{array}{r} 35 \\ -\ 2 \\ \hline 33 \end{array}$$

Units first!

b)

$$\begin{array}{r} 48 \\ -\ 6 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 27 \\ -\ 5 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 47 \\ -\ 15 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 26 \\ -\ 14 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 53 \\ -\ 22 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 29 \\ -\ 12 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 34 \\ -\ 13 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 44 \\ -\ 11 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 56 \\ -\ 22 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 57 \\ -\ 34 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 78 \\ -\ 43 \\ \hline \square \end{array}$$

m)

$$\begin{array}{r} 65 \\ -\ 22 \\ \hline \square \end{array}$$

n)

$$\begin{array}{r} 49 \\ -\ 37 \\ \hline \square \end{array}$$

o)

$$\begin{array}{r} 69 \\ -\ 24 \\ \hline \square \end{array}$$

Skill 7.7 Subtracting numbers by using columns, no carry (2).

p) 475 − 132 = ☐

q) 258 − 243 = ☐

r) 366 − 121 = ☐

s) 589 − 317 = ☐

t) 697 − 265 = ☐

u) 434 − 123 = ☐

v) 558 − 306 = ☐

w) 375 − 124 = ☐

x) 469 − 216 = ☐

y) 567 − 323 = ☐

z) 764 − 452 = ☐

A) 459 − 128 = ☐

B) 673 − 351 = ☐

C) 385 − 232 = ☐

D) 745 − 204 = ☐

E) 594 − 180 = ☐

F) 476 − 351 = ☐

G) 687 − 532 = ☐

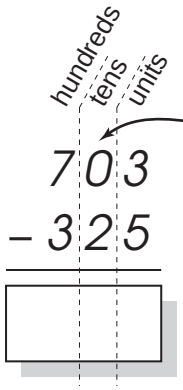
Skill 7.8 Subtracting numbers by using columns, with carry (1).

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Subtract from right to left.

Q.

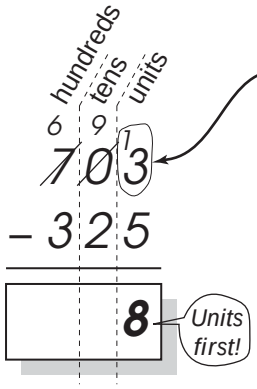
$$\begin{array}{r} 703 \\ -\ 325 \\ \hline \square \end{array}$$

A.



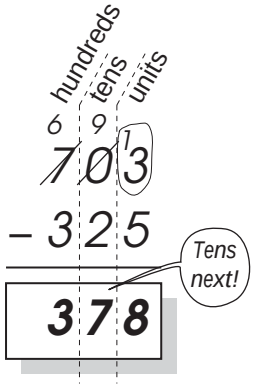
Units:
3 – 5 = ? units. Not possible.
No tens are available.
Break down the 7 hundreds.

7 hundreds = 6 hundreds
+ 9 tens
+ 10 units



Re-group the 3 units with the 10 units to make 13 units.

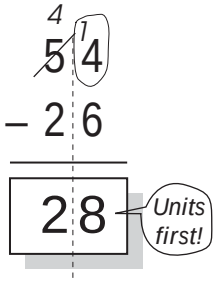
Now...
13 – 5 = 8 ⇒ 8 units



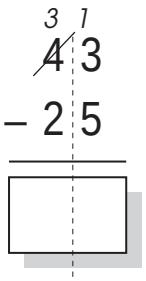
Tens:
9 – 2 = 7 ⇒ 7 tens

Hundreds:
6 – 3 = 3 ⇒ 3 hundreds

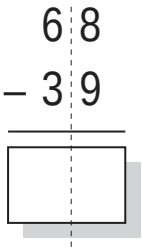
a)



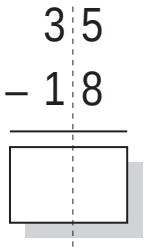
b)



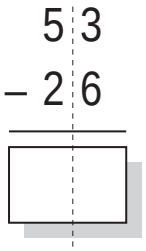
c)



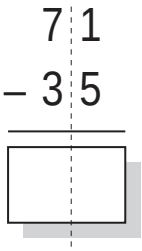
d)



e)



f)



Skill 7.8 Subtracting numbers by using columns, with carry (2).

g)
$$\begin{array}{r} 68 \\ -\ 39 \\ \hline \square\square \end{array}$$

h)
$$\begin{array}{r} 52 \\ -\ 17 \\ \hline \square\square \end{array}$$

i)
$$\begin{array}{r} 45 \\ -\ 29 \\ \hline \square\square \end{array}$$

j)
$$\begin{array}{r} 52 \\ -\ 18 \\ \hline \square\square \end{array}$$

k)
$$\begin{array}{r} 534 \\ -\ 26 \\ \hline \square\square\square \end{array}$$

l)
$$\begin{array}{r} 352 \\ -\ 17 \\ \hline \square\square\square \end{array}$$

m)
$$\begin{array}{r} 495 \\ -\ 148 \\ \hline \square\square\square \end{array}$$

n)
$$\begin{array}{r} 642 \\ -\ 327 \\ \hline \square\square\square \end{array}$$

o)
$$\begin{array}{r} 356 \\ -\ 219 \\ \hline \square\square\square \end{array}$$

p)
$$\begin{array}{r} 263 \\ -\ 137 \\ \hline \square\square\square \end{array}$$

q)
$$\begin{array}{r} 516 \\ -\ 342 \\ \hline \square\square\square \end{array}$$

r)
$$\begin{array}{r} 437 \\ -\ 184 \\ \hline \square\square\square \end{array}$$

s)
$$\begin{array}{r} 400 \\ -\ 154 \\ \hline \square\square\square \end{array}$$

t)
$$\begin{array}{r} 300 \\ -\ 125 \\ \hline \square\square\square \end{array}$$

u)
$$\begin{array}{r} 620 \\ -\ 141 \\ \hline \square\square\square \end{array}$$

v)
$$\begin{array}{r} 470 \\ -\ 179 \\ \hline \square\square\square \end{array}$$

w)
$$\begin{array}{r} 503 \\ -\ 234 \\ \hline \square\square\square \end{array}$$

x)
$$\begin{array}{r} 406 \\ -\ 328 \\ \hline \square\square\square \end{array}$$

8. [×,÷ Whole Number]

Skill 8.1 Understanding different terms for multiplication.

- Consider the words used with the numbers.
  Multiplication is associated with words like: *multiplied by, lots of, times, groups of, twice as much, product of.*

Q. 3 groups of 2 are

A. $3 \times 2 = \mathbf{6}$

'groups of' means multiplication

a) 8 multiplied by 5 is [40]

b) 3 lots of 5 are [ ]

c) 6 times 10 is [ ]

d) 7 groups of 2 are [ ]

e) 5 times 2 is [ ]

f) 6 groups of 5 are [ ]

g) 2 lots of 9 are [ ]

h) 7 multiplied by 4 is [ ]

i) 4 groups of 3 are [ ]

j) 8 times 3 is [ ]

k) 6 multiplied by 3 is [ ]

l) 6 lots of 3 are [ ]

m) 4 multiplied by 5 is [ ]

n) 3 groups of 7 are [ ]

o) 10 times 9 is [ ]

p) 5 lots of 7 are [ ]

q) 2 groups of 6 are [ ]

r) 3 times 5 is [ ]

s) 10 multiplied by 6 is [ ]

t) 5 lots of 5 are [ ]

Skill 8.2 Understanding different terms for division.

- Consider the words used with the numbers.
  Division is associated with words like: *how many in, divided by, shared between.*

Q. How many 2s in 10?

A. $10 \div 2 = \mathbf{5}$

'how many 2s in' means division

a) 20 shared between 2 is 10

b) 25 divided by 5 is

c) How many 5s in 15?

d) 24 shared between 3 is

e) 12 divided by 2 is

f) How many 5s in 20?

g) 21 shared between 3 is

h) 16 divided by 2 is

i) How many 3s in 27?

j) 6 divided by 3 is

k) 18 shared between 3 is

l) How many 3s in 12?

m) 30 shared between 5 is

n) 18 divided by 2 is

o) How many 2s in 14?

p) 10 shared between 5 is

q) 24 shared between 4 is

r) 45 shared between 5 is

s) 40 divided by 10 is

t) How many 5s in 35?

Skill 8.3 Multiplying the numbers from 1 to 10 by 10.

- Add a zero to the end of the number.
  Example: 6 × 10 = 60

  Hint: Think of the counting pattern by 10.

1 × 10 = **1**0
2 × 10 = **2**0
3 × 10 = **3**0
4 × 10 = **4**0
5 × 10 = **5**0
6 × 10 = **6**0
7 × 10 = **7**0
8 × 10 = **8**0
9 × 10 = **9**0
10 × 10 = **10**0
11 × 10 = **11**0
12 × 10 = **12**0

Q. 4 × 10 = ☐

A. *4 × 10* = ***40***

Add a zero after the 4.

a) 2 × 10 = 20

b) 7 × 10 = ☐

c) 5 × 10 = ☐

d) 6 × 10 = ☐

e) 1 × 10 = ☐

f) 8 × 10 = ☐

g) 9 × 10 = ☐

h) 3 × 10 = ☐

i) 4 × 10 = ☐

j) 10 × 10 = ☐

k) 11 × 10 = ☐

l) 12 × 10 = ☐

m)

	2	10	4	6	5
×10					

n)

	1	9	3	7	8
×10					

Skill 8.4 Multiplying the numbers from 1 to 10 by 2 or 4.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

Multiplying a number by 2

- Add the number to itself. (Doubling)
  Hint: Think of the counting pattern by 2.

1 × 2 = **2**
2 × 2 = **4**
3 × 2 = **6**
4 × 2 = **8**
5 × 2 = **10**
6 × 2 = **12**
7 × 2 = **14**
8 × 2 = **16**
9 × 2 = **18**
10 × 2 = **20**
11 × 2 = **22**
12 × 2 = **24**

Multiplying a number by 4

- Double the number. Double the result.
  Hint: Think of the counting pattern by 4.

1 × 4 = **4**
2 × 4 = **8**
3 × 4 = **12**
4 × 4 = **16**
5 × 4 = **20**
6 × 4 = **24**
7 × 4 = **28**
8 × 4 = **32**
9 × 4 = **36**
10 × 4 = **40**
11 × 4 = **44**
12 × 4 = **48**

Q. 5 × 4 = ☐

A. *5 × 4* = ***20***

Double 5 is 10.
Double 10 is 20.

a) 5 × 2 = 10

b) 3 × 4 = ☐

c) 6 × 4 = ☐

d) 8 × 2 = ☐

e) 8 × 4 = ☐

f) 4 × 2 = ☐

g) 6 × 2 = ☐

h) 2 × 4 = ☐

i) 4 × 4 = ☐

j) 7 × 2 = ☐

k) 10 × 2 = ☐

l) 7 × 4 = ☐

m)

	3	6	5	8	4
× 2					

n)

	6	2	3	5	4
×4					

Skill 8.5 Multiplying the numbers from 1 to 10 by 3.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

Hint: Think of the counting pattern by 3.

1 × 3 = **3**
2 × 3 = **6**
3 × 3 = **9**
4 × 3 = **12**
5 × 3 = **15**
6 × 3 = **18**
7 × 3 = **21**
8 × 3 = **24**
9 × 3 = **27**
10 × 3 = **30**
11 × 3 = **33**
12 × 3 = **36**

Q. 6 × 3 = ☐

A. *6 × 3 =* ***18***

a) 5 × 3 = 15

b) 4 × 3 = ☐

c) 1 × 3 = ☐

d) 6 × 3 = ☐

e) 2 × 3 = ☐

f) 8 × 3 = ☐

g) 7 × 3 = ☐

h) 3 × 3 = ☐

i) 10 × 3 = ☐

j) 9 × 3 = ☐

k) 11 × 3 = ☐

l) 12 × 3 = ☐

m)

	5	4	1	7	9
× 3					

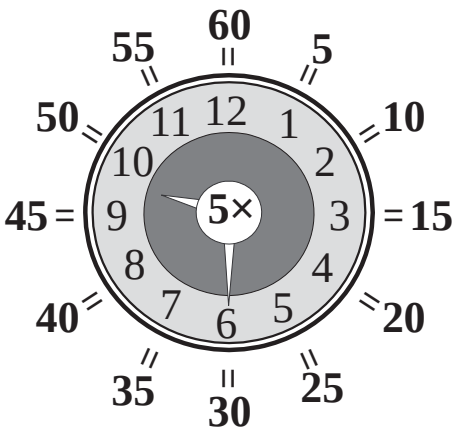
n)

	6	3	2	8	10
×3					

Skill 8.6 Multiplying the numbers from 1 to 10 by 5.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

Hints: Think of the counting pattern by 5.
The last digits in the results are always a 0 or a 5.
Multiplying by 5 produces the same values as the minutes on a clock face.



1 × 5 = **5**
2 × 5 = **10**
3 × 5 = **15**
4 × 5 = **20**
5 × 5 = **25**
6 × 5 = **30**
7 × 5 = **35**
8 × 5 = **40**
9 × 5 = **45**
10 × 5 = **50**
11 × 5 = **55**
12 × 5 = **60**

Q. 6 × 5 = ☐ **A.** *6 × 5 =* ***30***

a) 5 × 5 = 25 **b)** 4 × 5 = ☐

c) 1 × 5 = ☐ **d)** 6 × 5 = ☐

e) 2 × 5 = ☐ **f)** 8 × 5 = ☐

g) 7 × 5 = ☐ **h)** 3 × 5 = ☐

i) 10 × 5 = ☐ **j)** 9 × 5 = ☐

k) 11 × 5 = ☐ **l)** 12 × 5 = ☐

m)

	5	4	1	7	9
× 5					

n)

	6	3	2	8	10
×5					

Skill 8.7 Multiplying the numbers from 1 to 10 by 6, 7 or 8.

Hint: Think of the counting pattern by 6.

$1 \times 6 = \mathbf{6}$
$2 \times 6 = \mathbf{12}$
$3 \times 6 = \mathbf{18}$
$4 \times 6 = \mathbf{24}$
$5 \times 6 = \mathbf{30}$
$6 \times 6 = \mathbf{36}$
$7 \times 6 = \mathbf{42}$
$8 \times 6 = \mathbf{48}$
$9 \times 6 = \mathbf{54}$
$10 \times 6 = \mathbf{60}$
$11 \times 6 = \mathbf{66}$
$12 \times 6 = \mathbf{72}$

Hint: Think of the counting pattern by 7.

$1 \times 7 = \mathbf{7}$
$2 \times 7 = \mathbf{14}$
$3 \times 7 = \mathbf{21}$
$4 \times 7 = \mathbf{28}$
$5 \times 7 = \mathbf{35}$
$6 \times 7 = \mathbf{42}$
$7 \times 7 = \mathbf{49}$
$8 \times 7 = \mathbf{56}$
$9 \times 7 = \mathbf{63}$
$10 \times 7 = \mathbf{70}$
$11 \times 7 = \mathbf{77}$
$12 \times 7 = \mathbf{84}$

Hint: Think of the counting pattern by 8.

$1 \times 8 = \mathbf{8}$
$2 \times 8 = \mathbf{16}$
$3 \times 8 = \mathbf{24}$
$4 \times 8 = \mathbf{32}$
$5 \times 8 = \mathbf{40}$
$6 \times 8 = \mathbf{48}$
$7 \times 8 = \mathbf{56}$
$8 \times 8 = \mathbf{64}$
$9 \times 8 = \mathbf{72}$
$10 \times 8 = \mathbf{80}$
$11 \times 8 = \mathbf{88}$
$12 \times 8 = \mathbf{96}$

Q. $6 \times 7 =$ ☐

A. $6 \times 7 = \mathbf{42}$

a) $3 \times 8 =$ 24

b) $5 \times 7 =$ ☐

c) $8 \times 8 =$ ☐

d) $9 \times 6 =$ ☐

e) $4 \times 7 =$ ☐

f) $6 \times 8 =$ ☐

g) $4 \times 6 =$ ☐

h) $3 \times 7 =$ ☐

i) $2 \times 7 =$ ☐

j) $5 \times 8 =$ ☐

k)

	5	4	1	7	9
× 6					

l)

	6	1	8	7	9
×7					

m)

	7	9	2	4	10
× 8					

n)

	6	3	2	8	10
×6					

Skill 8.8 Multiplying the numbers from 1 to 10 by 9.

Hints: Think of the counting pattern by 9.
Apart from 11 × 9, the digits in the results always add to 9.
Example: 2 × 9 = 18 ⇒ 1 + 8 = 9

1 × 9 =	**9**
2 × 9 =	**18**
3 × 9 =	**27**
4 × 9 =	**36**
5 × 9 =	**45**
6 × 9 =	**54**
7 × 9 =	**63**
8 × 9 =	**72**
9 × 9 =	**81**
10 × 9 =	**90**
11 × 9 =	**99**
12 × 9 =	**108**

Q. 7 × 9 = ☐ **A.** *7 × 9 =* ***63***

a) 5 × 9 = 45 **b)** 4 × 9 = ☐

c) 1 × 9 = ☐ **d)** 6 × 9 = ☐

e) 2 × 9 = ☐ **f)** 8 × 9 = ☐

g) 7 × 9 = ☐ **h)** 3 × 9 = ☐

i) 10 × 9 = ☐ **j)** 9 × 9 = ☐

k) 11 × 9 = ☐ **l)** 12 × 9 = ☐

m)

	2	3	7	10	9
× 9					

n)

	8	1	6	4	5
× 9					

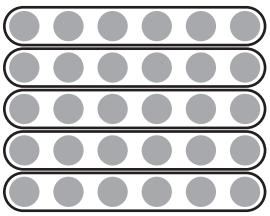
Skill 8.9 Dividing by whole numbers from 1 to 10 by using arrays (1).

- Look at the number you divide by.
- Circle dots to make that number of equal groups.
- Count the number of dots in each group to complete the division.

Q. 30 ÷ 5 = ☐

A. *30* ÷ *5* = ***6***

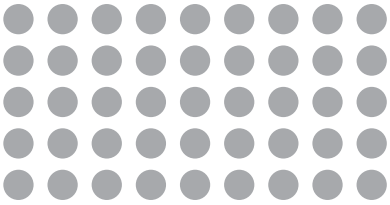
the number you divide by



There are 6 dots in each group.

a) 12 ÷ 3 = 4

b) 45 ÷ 5 = ☐

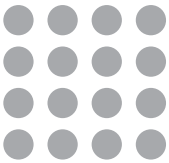


c) 18 ÷ 3 = ☐

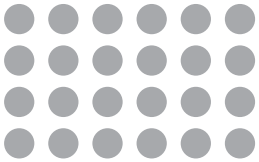
d) 15 ÷ 3 = ☐

e) 15 ÷ 5 = ☐

f) 16 ÷ 4 = ☐



g) 24 ÷ 4 = ☐



h) 30 ÷ 3 = ☐

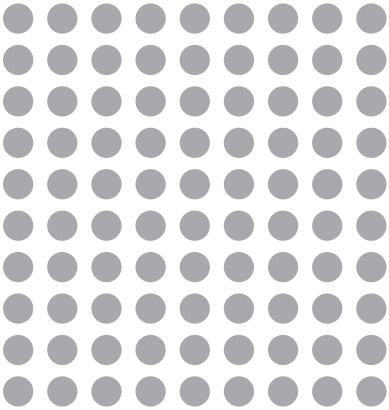
i) 14 ÷ 2 = ☐

j) 20 ÷ 2 = ☐

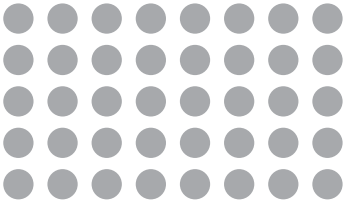
Skill 8.9 Dividing by whole numbers from 1 to 10 by using arrays (2).

MM3 1 1 2 2 3 3 4
MM4 1 1 2 3 3 4 4

k) 90 ÷ 10 = ☐

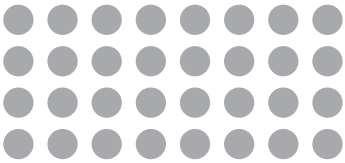


l) 40 ÷ 5 = ☐

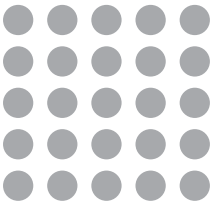


m) 12 ÷ 2 = ☐

n) 32 ÷ 4 = ☐

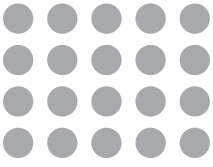


o) 25 ÷ 5 = ☐



p) 27 ÷ 3 = ☐

q) 20 ÷ 4 = ☐

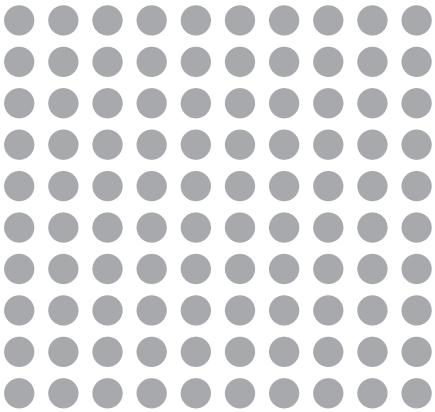


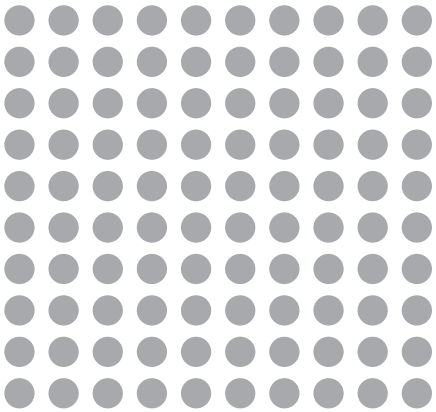
r) 30 ÷ 10 = ☐

s) 27 ÷ 3 = ☐

t) 16 ÷ 2 = ☐

Skill 8.9 Dividing by whole numbers from 1 to 10 by using arrays (3).





u)

	24	6	30	27	15
÷ 3					

v)

	30	20	5	45	10
÷ 5					

w)

	4	12	20	16	18
÷ 2					

x)

	80	20	50	90	30
÷10					

y)

	10	45	15	35	20
÷ 5					

z)

	20	28	8	16	40
÷ 4					

A)

	6	18	36	60	42
÷ 6					

B)

	90	10	40	20	60
÷10					

C)

	81	27	54	9	63
÷ 9					

D)

	49	35	14	21	70
÷ 7					

E)

	7	56	28	42	63
÷ 7					

F)

	40	16	48	64	32
÷ 8					

Skill 8.10 Multiplying by single digit numbers by using columns.

- Multiply the units, tens and hundreds by the single digit.
- Multiply from right to left.

Q.

$$\begin{array}{r} 212 \\ \times \quad 4 \\ \hline \square \end{array}$$

A.

hundreds	tens	units
2	1	2
×		4
8	**4**	**8**

Units first!

Units:
$4 \times 2 = 8$ ⇒ 8 units

Tens:
$4 \times 1 = 4$ ⇒ 4 tens

Hundreds:
$4 \times 2 = 8$ ⇒ 8 hundreds

a)

$$\begin{array}{r} 31 \\ \times \quad 3 \\ \hline 93 \end{array}$$

Units first!

b)

$$\begin{array}{r} 42 \\ \times \quad 2 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 34 \\ \times \quad 2 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 23 \\ \times \quad 2 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 21 \\ \times \quad 3 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 41 \\ \times \quad 2 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 44 \\ \times \quad 2 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 32 \\ \times \quad 3 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 12 \\ \times \quad 4 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 112 \\ \times \quad 3 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 121 \\ \times \quad 2 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 313 \\ \times \quad 2 \\ \hline \square \end{array}$$

m)

$$\begin{array}{r} 434 \\ \times \quad 2 \\ \hline \square \end{array}$$

n)

$$\begin{array}{r} 122 \\ \times \quad 4 \\ \hline \square \end{array}$$

o)

$$\begin{array}{r} 123 \\ \times \quad 3 \\ \hline \square \end{array}$$

Skill 8.11 Dividing by single digit numbers by using columns.

- Divide the hundreds, tens and units by the single digit.
- Divide from left to right.

Q. $2\overline{)608}$

A. $2\overline{)608}$ = 304 (hundreds first!)

hundreds | tens | units

Hundreds:
6 ÷ 2 = 3 ⇒ 3 hundreds

Tens:
0 ÷ 2 = 0 ⇒ 0 tens

Units:
8 ÷ 2 = 4 ⇒ 4 units

a) $2\overline{)24}$ = 12 (tens first!)

b) $4\overline{)84}$

c) $3\overline{)96}$

d) $2\overline{)86}$

e) $2\overline{)68}$

f) $4\overline{)48}$

g) $2\overline{)82}$

h) $4\overline{)44}$

i) $3\overline{)63}$

j) $3\overline{)903}$

k) $3\overline{)306}$

l) $2\overline{)468}$

m) $2\overline{)602}$

n) $4\overline{)488}$

o) $4\overline{)804}$

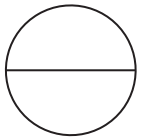
p) $3\overline{)693}$

q) $2\overline{)824}$

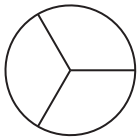
r) $5\overline{)505}$

9. [Fractions]

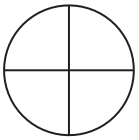
Skill 9.1 Recognising fractions as part of a whole.



halves - 2 equal parts



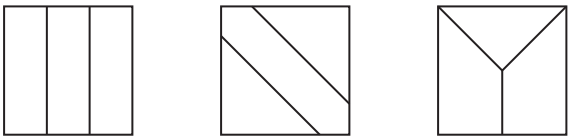
thirds - 3 equal parts



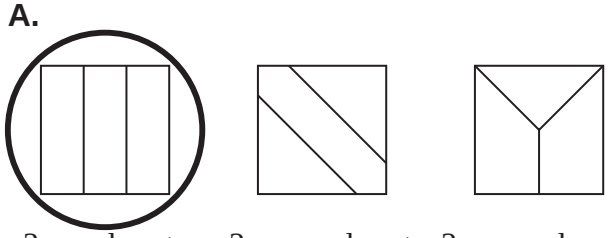
quarters - 4 equal parts

- Find the number of parts in each shape.
- Match the number of parts with the fraction given.
- Check that the parts are of equal size.

Q. Circle the picture that shows thirds.

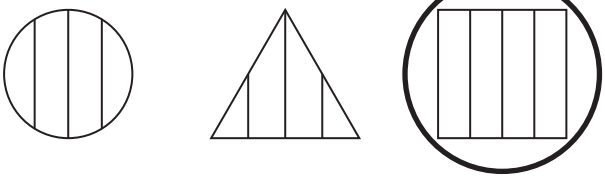


A.

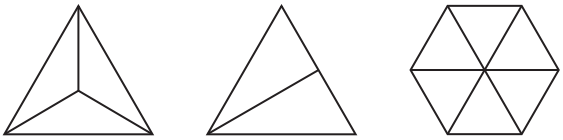


3 equal parts 3 unequal parts 3 unequal parts

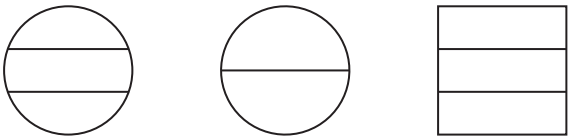
a) Circle the picture that shows quarters.



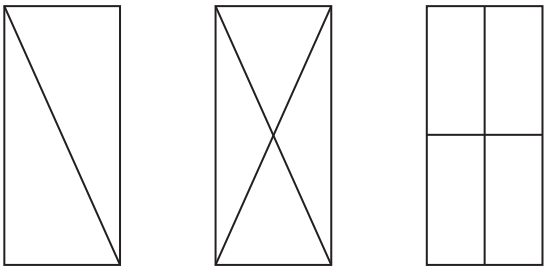
b) Circle the picture that shows halves.



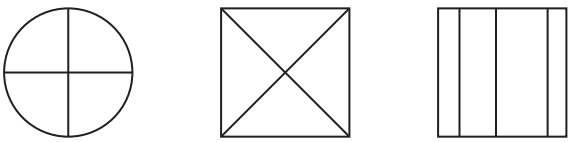
c) Circle the picture that shows thirds.



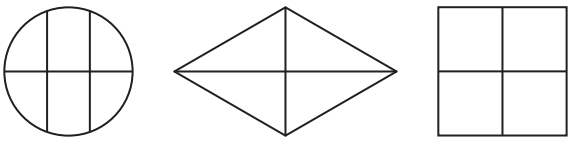
d) Circle the picture that shows halves.



e) Circle the pictures that show quarters.



f) Circle the pictures that show quarters.

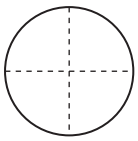


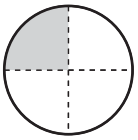
Skill 9.2 Illustrating fractions as part of a whole by shading parts of a diagram (1).

one half	one third	one quarter	one fifth	one sixth	one seventh	one eighth	one ninth
$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{6}$	$\frac{1}{7}$	$\frac{1}{8}$	$\frac{1}{9}$

- First find the smallest part that the shape is divided into.
- Colour the number of parts needed.

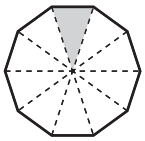
Q. Colour one quarter of the circle.



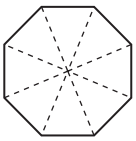
A.  [any sector]

the smallest part = one quarter

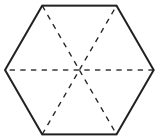
a) Colour one tenth of the decagon.

 [any small triangle]

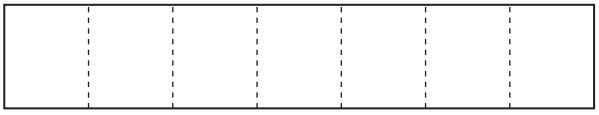
b) Colour one eighth of the octagon.



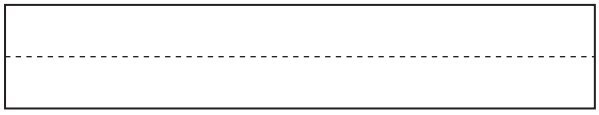
c) Colour one sixth of the hexagon.



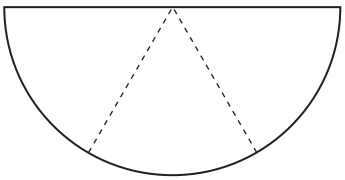
d) Colour one seventh of the rectangle.



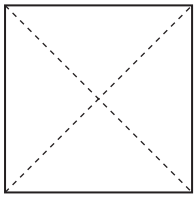
e) Colour one half of the rectangle.



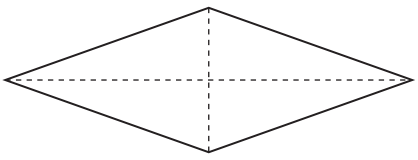
f) Colour one third of the semicircle.



g) Colour two quarters of the square.

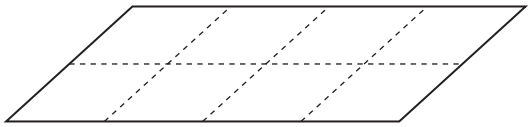


h) Colour three quarters of the rhombus.

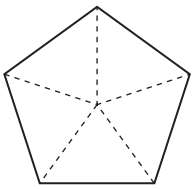


Skill 9.2 Illustrating fractions as part of a whole by shading parts of a diagram (2).

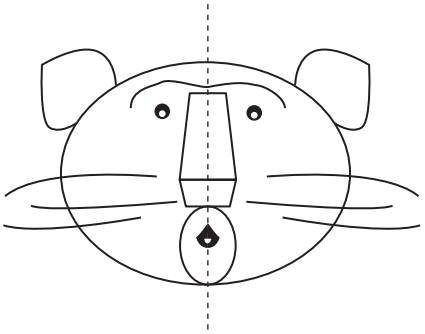
i) Colour five eighths of the parallelogram.



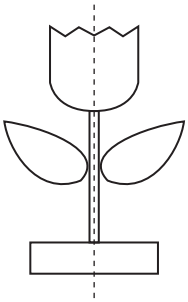
j) Colour three fifths of the pentagon.



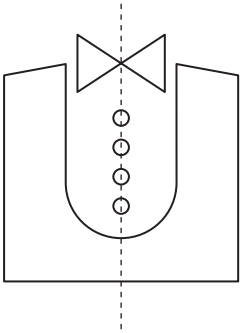
k) Colour $\frac{1}{2}$ of the face.



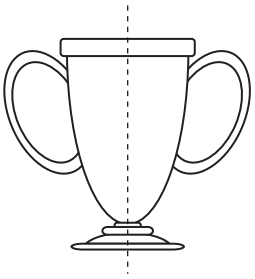
l) Colour $\frac{1}{2}$ of the flower.



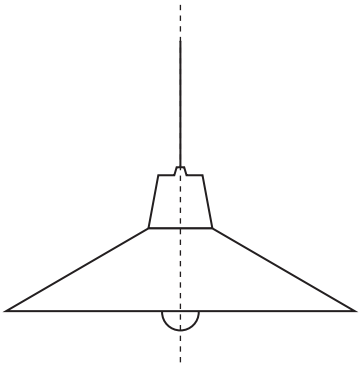
m) Colour $\frac{1}{2}$ of the shirt.



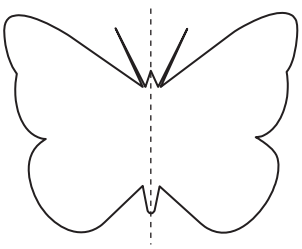
n) Colour $\frac{1}{2}$ of the trophy.



o) Colour $\frac{1}{2}$ of the lamp.

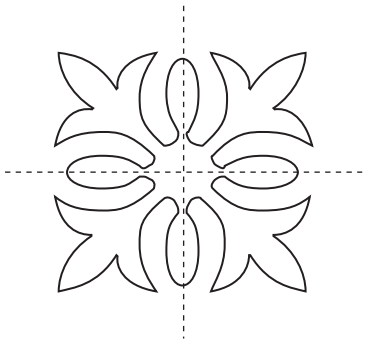


p) Colour $\frac{1}{2}$ of the butterfly.

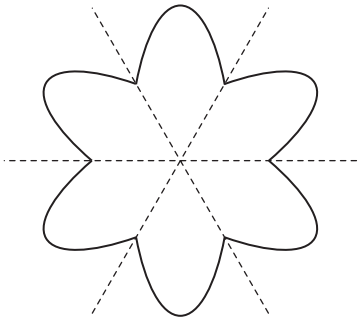


Skill 9.2 Illustrating fractions as part of a whole by shading parts of a diagram (3).

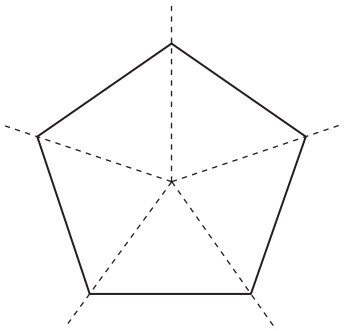
q) Colour $\frac{1}{4}$ of the emblem.



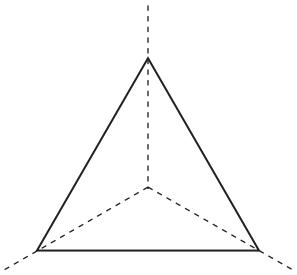
r) Colour $\frac{1}{6}$ of the flower.



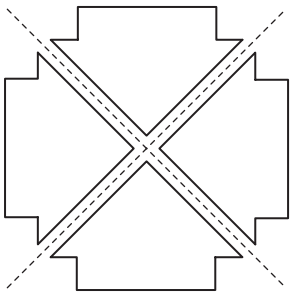
s) Colour $\frac{1}{5}$ of the pentagon.



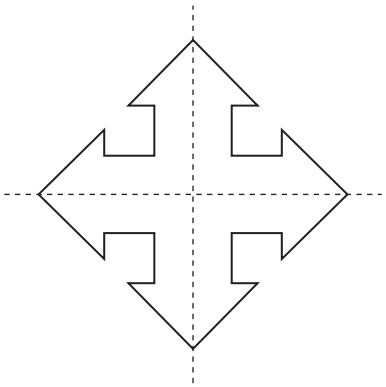
t) Colour $\frac{1}{3}$ of the triangle.



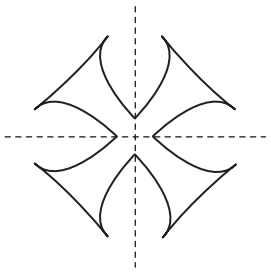
u) Colour $\frac{1}{4}$ of the symbol.



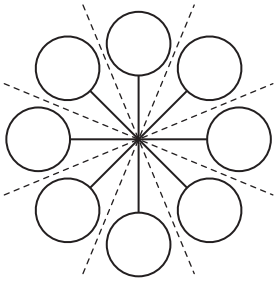
v) Colour $\frac{1}{4}$ of the symbol.



w) Colour $\frac{1}{4}$ of the emblem.



x) Colour $\frac{1}{8}$ of the symbol.

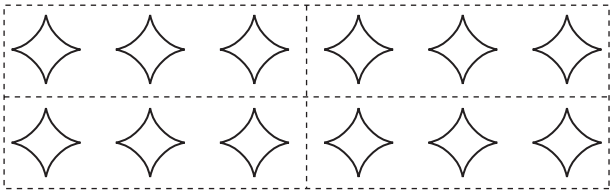


Skill 9.3 Illustrating fractions as part of a group by shading parts of a diagram (1).

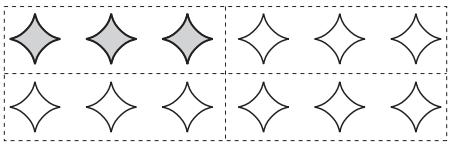
Hint: The dotted lines show the collection divided into the parts needed.

- Colour the shapes in the number of parts needed.

Q. Colour one quarter of the shapes.

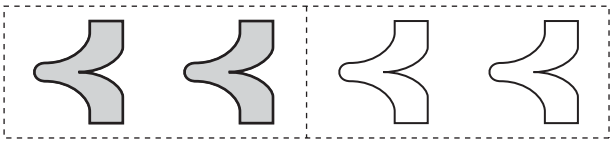


A.



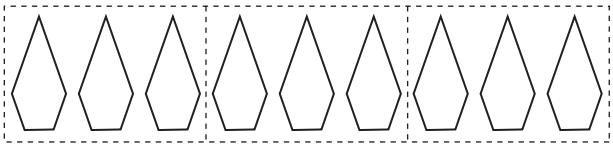
A quarter of 12 = 12 ÷ 4 = 3
Any 3 shapes are a quarter.

a) Colour one half of the shapes.

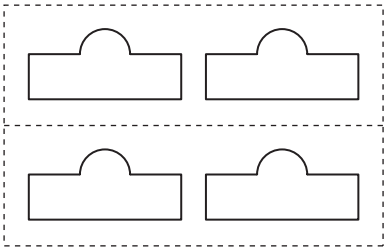


[any 2 shapes]

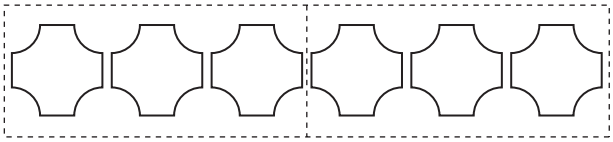
b) Colour one third of the shapes.



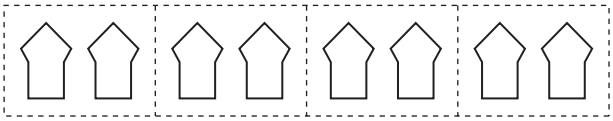
c) Colour one half of the shapes.



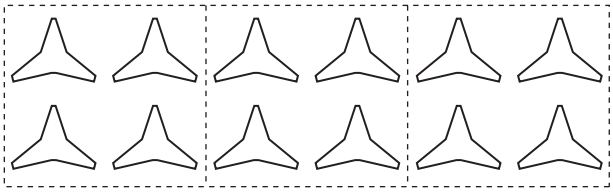
d) Colour one half of the shapes.



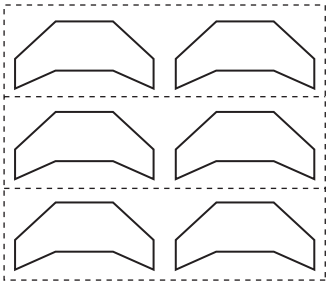
e) Colour one quarter of the shapes.



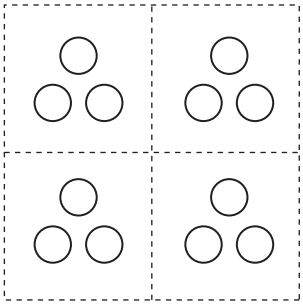
f) Colour one third of the shapes.



g) Colour one third of the shapes.

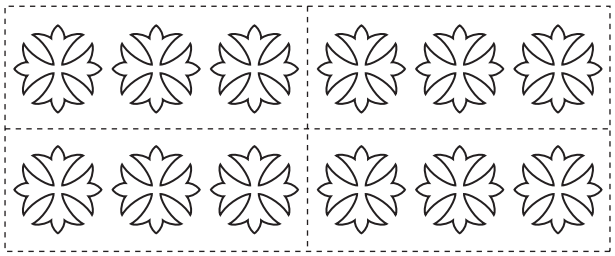


h) Colour one quarter of the shapes.

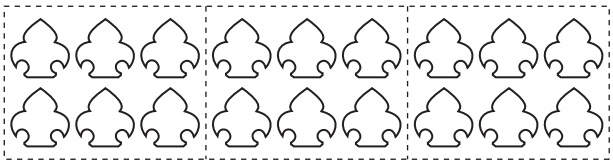


Skill 9.3 Illustrating fractions as part of a group by shading parts of a diagram (2).

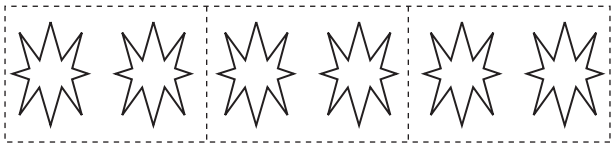
i) Colour one quarter of the shapes.



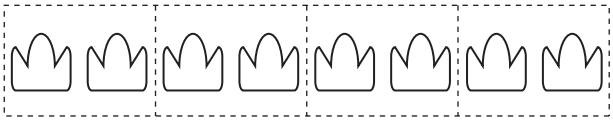
j) Colour one third of the shapes.



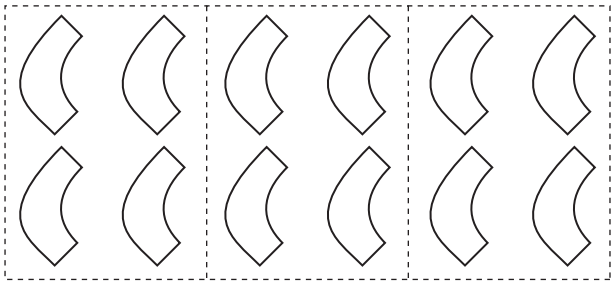
k) Colour two thirds of the shapes.



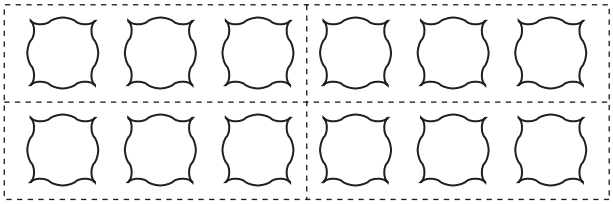
l) Colour three quarters of the shapes.



m) Colour two thirds of the shapes.

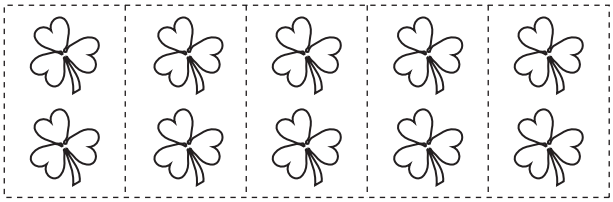


n) Colour three quarters of the shapes.

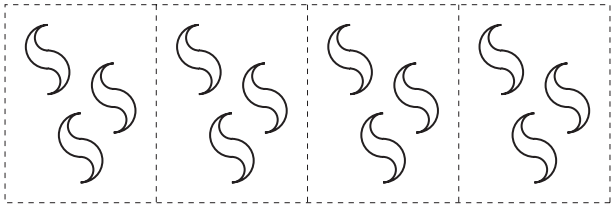


o) Colour two thirds of the shapes.

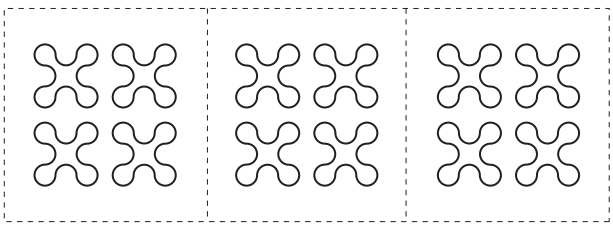
p) Colour two fifths of the shapes.



q) Colour three quarters of the shapes.



r) Colour two thirds of the shapes.

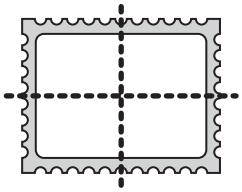


Skill 9.4 Illustrating fractions as part of a whole by drawing dividing lines in a diagram (1).

- Draw a line, or lines, to divide the shape into an equal number of identical parts as needed.
  Example: To divide this shape into halves, draw a vertical line through the middle of the shape.

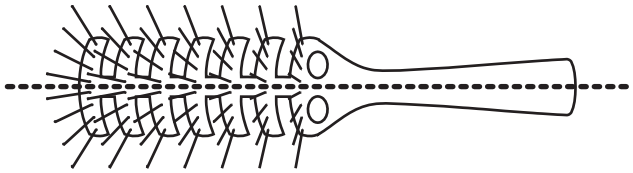
Q. Draw lines to divide the stamp into quarters.

A.



Draw a vertical line through the middle of the shape.
Draw a horizontal line through the middle of the shape.

a) Draw a line to divide the hair brush into halves.

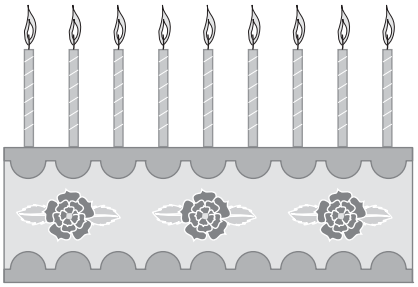


b) Draw a line to divide the penguin into halves.

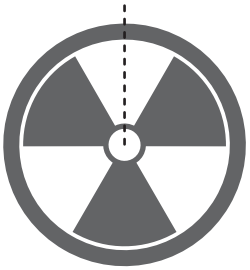
c) Draw a line to divide the glass into halves.

d) Draw a line to divide the hat into halves.

e) Draw lines to divide the cake into thirds.

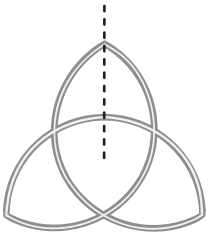


f) Draw lines to divide the symbol into thirds.
[Hint: A line has been drawn for you.]

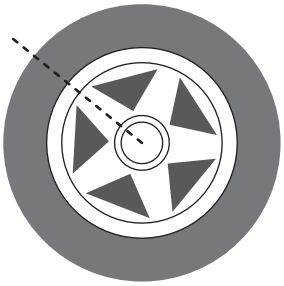


Skill 9.4 Illustrating fractions as part of a whole by drawing dividing lines in a diagram (2).

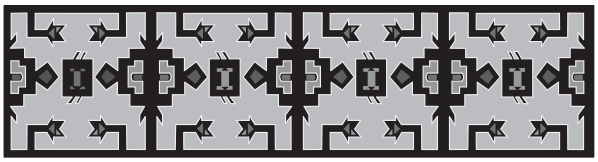
g) Draw lines to divide the symbol into thirds. [Hint: A line has been drawn for you.]



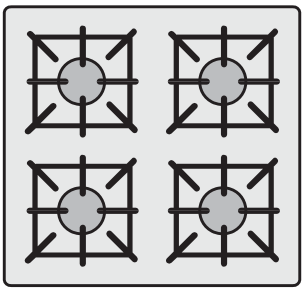
h) Draw lines to divide the tyre into fifths. [Hint: A line has been drawn for you.]



i) Draw lines to divide the rug into quarters.

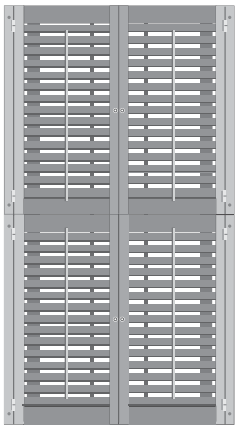


j) Draw lines to divide the stove top into quarters.

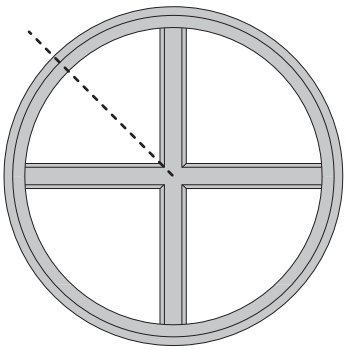


k) Draw lines to divide the coat hanger rack into quarters.

l) Draw lines to divide the window into quarters.



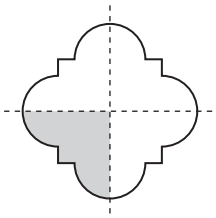
m) Draw lines to divide the round window into eighths.
[Hint: A line has been drawn for you.]



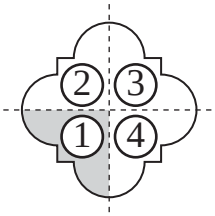
Skill 9.5 Writing fractions to represent parts of a whole.

- Count the shaded parts of the whole shape.
- Write this number as the top number of the fraction.
- Count the total number of parts in the whole shape.
- Write this number as the bottom number of the fraction.

Q. Write a fraction for the shaded part.

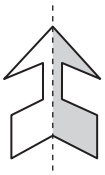


A. $\frac{1}{4}$



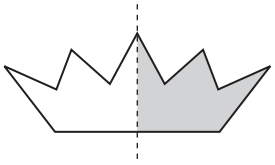
1 out of 4 parts shaded.

a) Write a fraction for the shaded part.



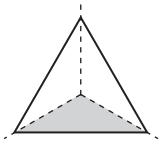
$\frac{1}{2}$

b) Write a fraction for the shaded part.



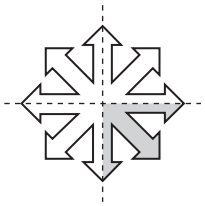
$\frac{\square}{\square}$

c) Write a fraction for the shaded part.



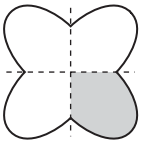
$\frac{\square}{\square}$

d) Write a fraction for the shaded part.



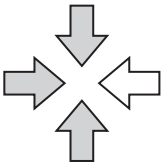
$\frac{\square}{\square}$

e) Write a fraction for the shaded part.



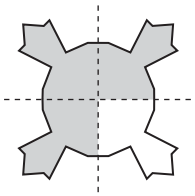
$\frac{\square}{\square}$

f) Write a fraction for the shaded part.



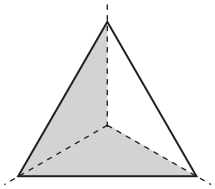
$\frac{\square}{\square}$

g) Write a fraction for the shaded part.



$\frac{\square}{\square}$

h) Write a fraction for the shaded part.

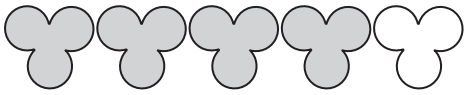


$\frac{\square}{\square}$

Skill 9.6 Writing fractions to represent parts of a group.

- Count the shaded shapes in the group.
- Write this number as the top number of the fraction.
- Count the total number of shapes in the group.
- Write this number as the bottom number of the fraction.

Q. Write a fraction for the shaded part of the group.



A. $\frac{4}{5}$

4 out of 5 shapes are shaded.

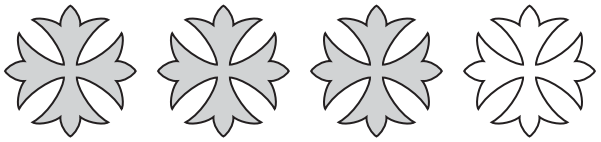
a) What part of the group is shaded?

4 out of 7

b) What part of the group is shaded?

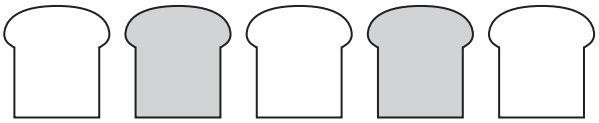
□ out of □

c) What part of the group is shaded?



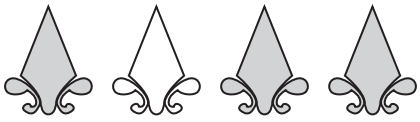
□ out of □

d) What part of the group is shaded?



□ out of □

e) Write a fraction for the shaded part of the group.



$\frac{\square}{\square}$

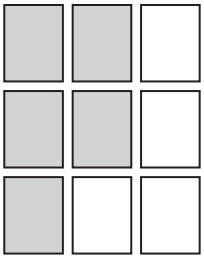
f) Write a fraction for the shaded part of the group.

$\frac{\square}{\square}$

g) Write a fraction for the shaded part of the group.

$\frac{\square}{\square}$

h) Write a fraction for the shaded part of the group.



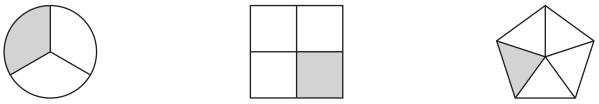
$\frac{\square}{\square}$

Skill 9.7 Matching fractions to diagrams.

- Join with a line the fraction and the diagram that has a number of parts equal to the bottom number of that fraction.

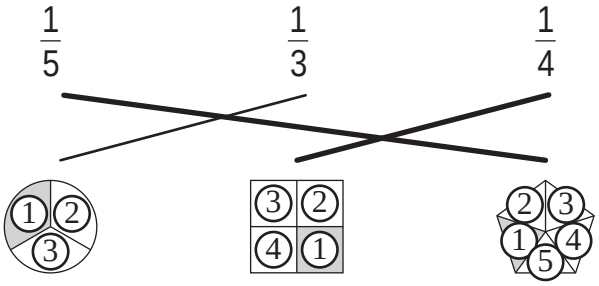
Q. Match the fractions to the shapes.

$\frac{1}{5}$ $\frac{1}{3}$ $\frac{1}{4}$



A.

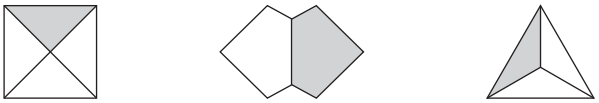
$\frac{1}{5}$ $\frac{1}{3}$ $\frac{1}{4}$



3 parts 4 parts 5 parts

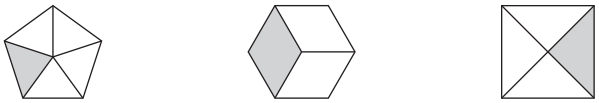
a) Match the fractions to the shapes.

$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$



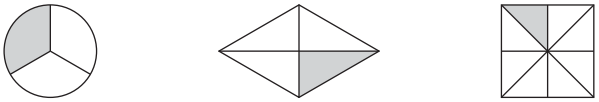
b) Match the fractions to the shapes.

$\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{5}$



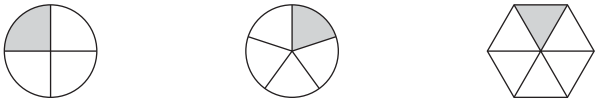
c) Match the fractions to the shapes.

$\frac{1}{8}$ $\frac{1}{3}$ $\frac{1}{4}$



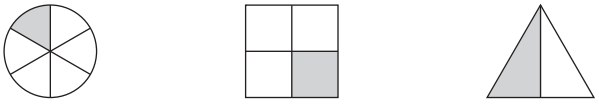
d) Match the fractions to the shapes.

$\frac{1}{6}$ $\frac{1}{5}$ $\frac{1}{4}$



e) Match the fractions to the shapes.

$\frac{1}{6}$ $\frac{1}{2}$ $\frac{1}{4}$



f) Match the fractions to the shapes.

$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{5}$

Skill 9.8 Reading and illustrating fractions on a number line.

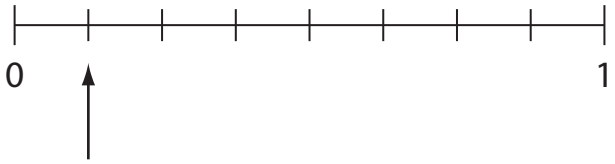
To read a fraction

- Count the spaces between 0 and 1.
- Write this number as the bottom number of the fraction.
- Count the spaces to the arrow.
- Write this number as the top number of the fraction.

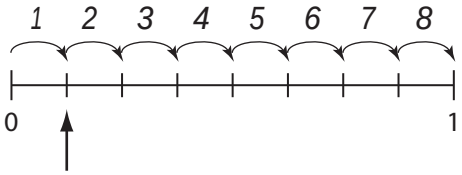
To illustrate a fraction

- Check that the number line has the same number of spaces as shown by the bottom number of the fraction.
- Count the number of spaces as shown by the top number and draw an arrow.

Q. What fraction is shown by the arrow on the number line?

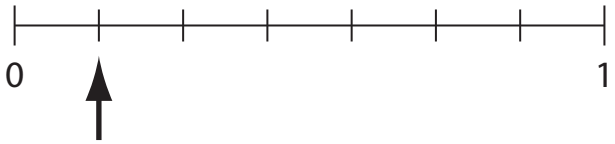


A. $\frac{1}{8}$

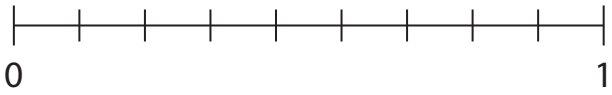


There are 8 spaces between 0 and 1.

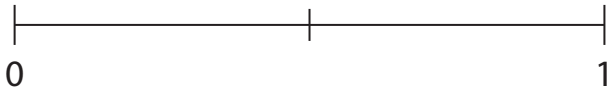
a) Show with an arrow the fraction $\frac{1}{7}$ on the number line.



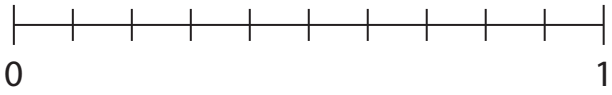
b) Show with an arrow the fraction $\frac{1}{9}$ on the number line.



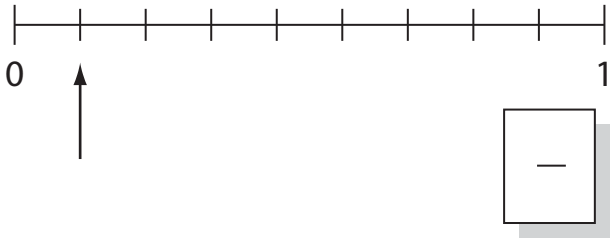
c) Show with an arrow the fraction $\frac{1}{2}$ on the number line.



d) Show with an arrow the fraction $\frac{1}{10}$ on the number line.

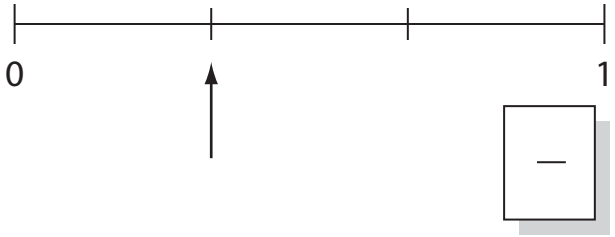


e) What fraction is shown by the arrow on the number line?

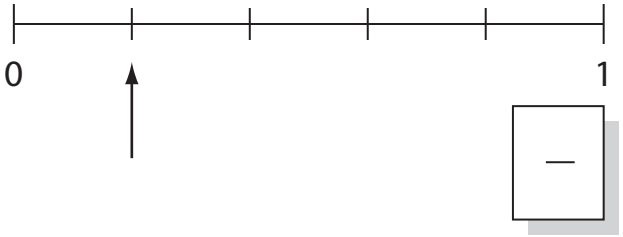


f) What fraction is shown by the arrow on the number line?

g) What fraction is shown by the arrow on the number line?



h) What fraction is shown by the arrow on the number line?



Skill 9.9 Finding the remaining fraction from a whole.

A whole amount is made out of:

two halves	three thirds	four quarters	five fifths	six sixths	seven sevenths	eight eighths	nine ninths
							
$\frac{2}{2}$	$\frac{3}{3}$	$\frac{4}{4}$	$\frac{5}{5}$	$\frac{6}{6}$	$\frac{7}{7}$	$\frac{8}{8}$	$\frac{9}{9}$

- Subtract the fraction from the whole amount.

Q. Two thirds of the students in the class can swim. What fraction of the students cannot swim?

A. *one whole – two thirds =* $\frac{1}{3}$

a) Lou has painted one half of the wall. What fraction of the wall is left to paint?

one whole – one half = $\frac{1}{2}$

b) David has finished one half of his test. What fraction of his test is left to do?

.....

c) Loretta has eaten three quarters of the box of chocolates. What fractions of the box of chocolates remains?

.....

d) Matthew blew out five sixths of the candles on his cake. What fraction of the candles are left to blow out?

.....

e) Two fifths of the animals at the zoo are mammals. What fraction of the animals are not mammals?

.....

f) Five sevenths of the gym floor has been cleaned. What fraction of the floor is left to clean?

.....

g) Dad finished unpacking three eighths of the trunk. What fraction of the trunk is left to unpack?

.....

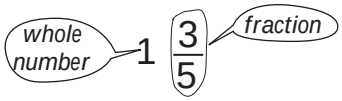
h) Laura learned seven tenths of the song on the piano. What fraction of the song is left to learn?

.....

Skill 9.10 Recognising mixed numbers in a diagram.

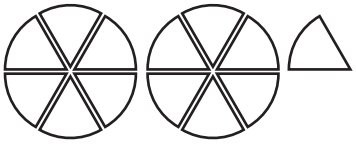
- Count the number of whole circles.
- Write this number first.
- Count the total number of parts in a complete circle.
- Write this number as the bottom number of the fraction.
- Count the number of parts in the incomplete circle.
- Write this number as the top number of the fraction.

MIXED NUMBER



Read as: "One and three fifths"

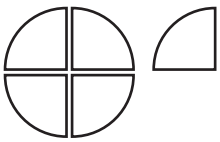
Q. Write a mixed number to match this picture.



A. $2\frac{1}{6}$

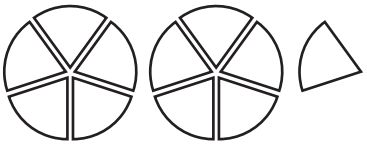
There are 2 whole circles.
There are 6 parts in a circle.
There is 1 part in the incomplete circle.

a) Write a mixed number to match this picture.

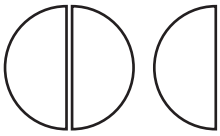


$1\frac{1}{4}$

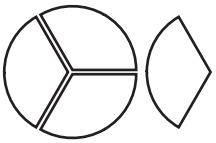
b) Write a mixed number to match this picture.



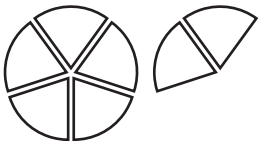
c) Write a mixed number to match this picture.



d) Write a mixed number to match this picture.



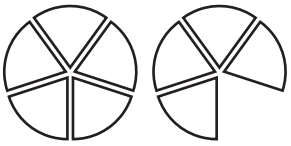
e) Write a mixed number to match this picture.



f) Write a mixed number to match this picture.

g) Write a mixed number to match this picture.

h) Write a mixed number to match this picture.



Skill 9.11 Reading and illustrating mixed numbers on a number line.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

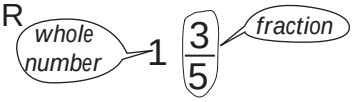
To read a mixed number

- Write the number before the arrow as the whole number.
- Count the spaces between that whole number and the next number.
- Write this number as the bottom number of the fraction.
- Count the spaces from the whole number to the arrow.
- Write this number as the top number of the fraction.

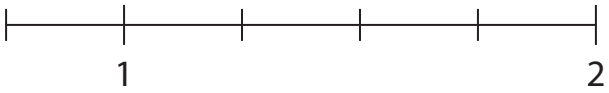
To illustrate a mixed number

- Check that the number line has the same number of spaces as shown by the bottom number of the fraction.
- Mark the whole number of the mixed number on the line.
- Count the spaces as shown by the top number and draw an arrow.

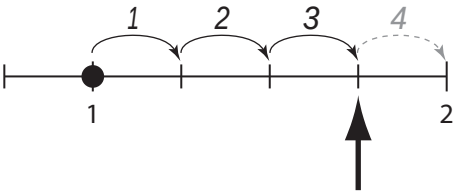
MIXED NUMBER



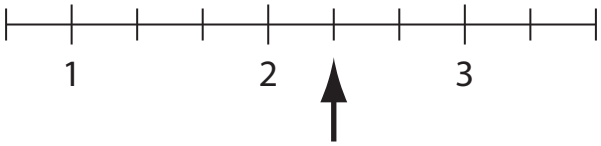
Q. Show with an arrow $1\frac{3}{4}$ on the number line.



A.



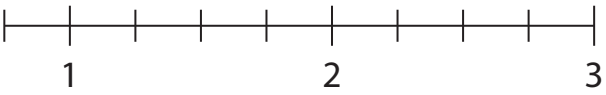
a) Show with an arrow $2\frac{1}{3}$ on the number line.



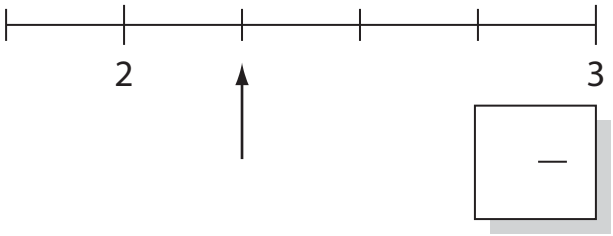
b) Show with an arrow $2\frac{1}{2}$ on the number line.

c) Show with an arrow $1\frac{2}{3}$ on the number line.

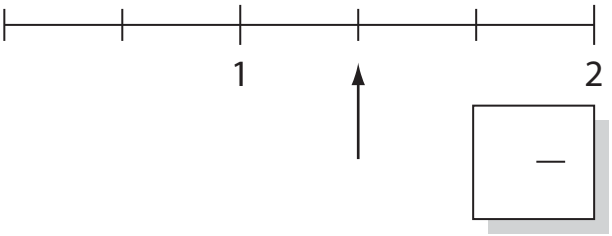
d) Show with an arrow $2\frac{3}{4}$ on the number line.



e) What mixed number is shown by the arrow on the number line?

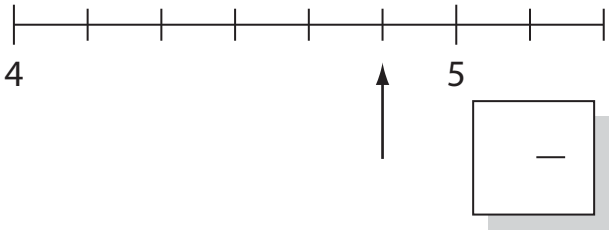


f) What mixed number is shown by the arrow on the number line?



g) What mixed number is shown by the arrow on the number line?

h) What mixed number is shown by the arrow on the number line?



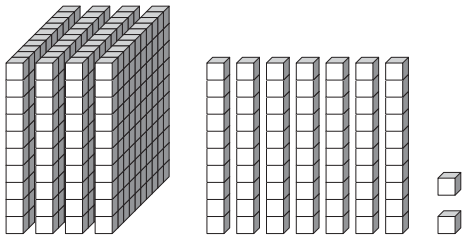
10. [Place Value]

Skill 10.1 Writing numbers illustrated by base 10 blocks (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Count the number of the blocks (10 × 10 × 10), flats (10 × 10), longs (1 × 10) and minis (1) to determine the value of each digit in the number.

Q.

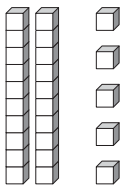


4 hundreds 7 tens 2 ones =

A. ***472***

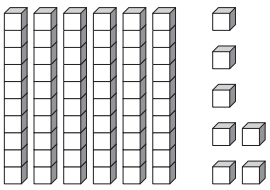
4 hundreds = 400
7 tens = 70
2 ones = 2
400 and 70 and 2 = 472

a)



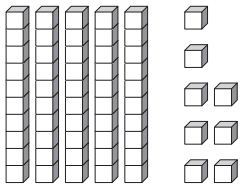
2 tens 5 ones = 25

b)



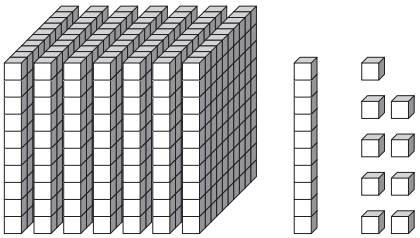
6 tens 7 ones = ☐

c)



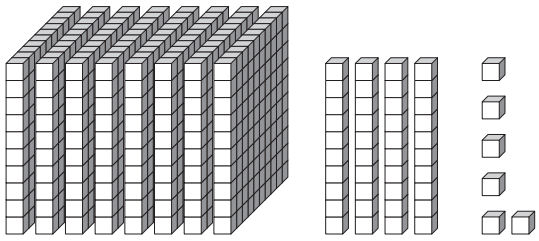
5 tens 8 ones = ☐

d)



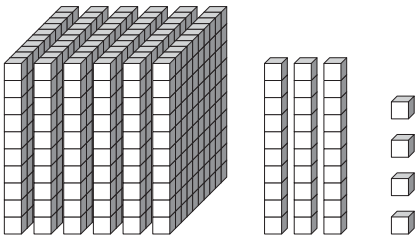
7 hundreds 1 ten 9 ones = ☐

e)



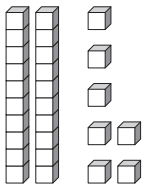
8 hundreds 4 tens 6 ones = ☐

f)



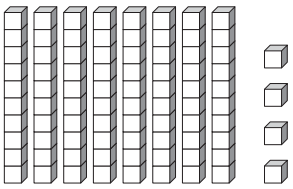
6 hundreds 3 tens 4 ones = ☐

g)



☐ tens ☐ ones = ☐

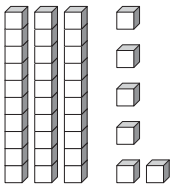
h)



☐ tens ☐ ones = ☐

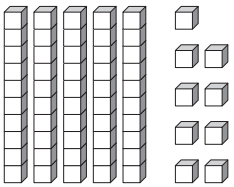
Skill 10.1 Writing numbers illustrated by base 10 blocks (2).

i)



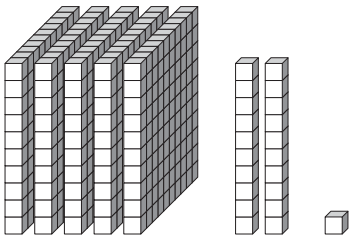
☐ tens ☐ ones = ☐

j)



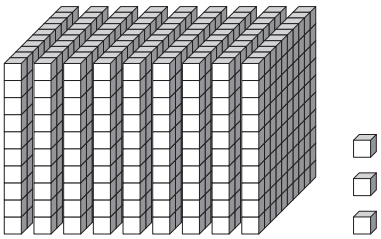
☐ tens ☐ ones = ☐

k)



5 hundreds 2 tens 1 one = ☐

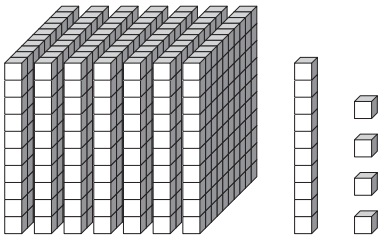
l)



☐ hundreds ☐ tens ☐ ones

= ☐

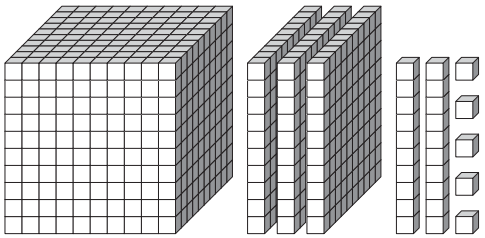
m)



☐ hundreds ☐ ten ☐ ones

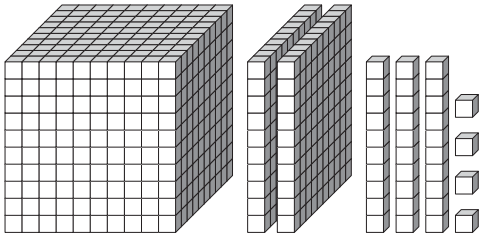
= ☐

n)



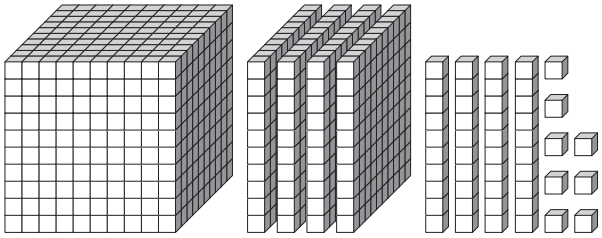
1 thousand 3 hundreds
2 tens 5 ones = ☐

o)



1 thousand 2 hundreds
3 tens 4 ones = ☐

p)



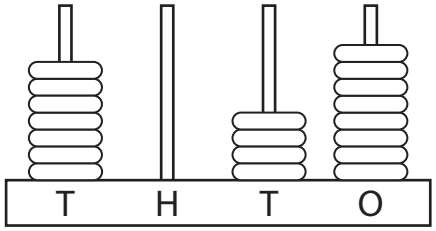
1 thousand 4 hundreds
4 tens 8 ones = ☐

Skill 10.2 Writing numbers illustrated by an abacus showing place values (1).

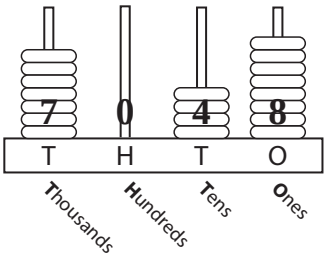
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Count the discs in each column.
- Write the digits in the appropriate places to form a number.

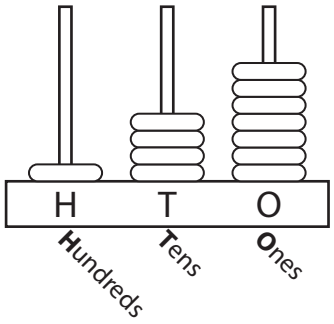
Q. Write the numeral.



A. ***7048***

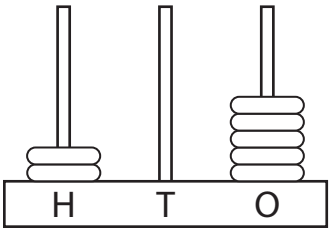


a) Write the numeral.

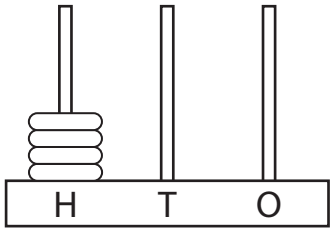


147

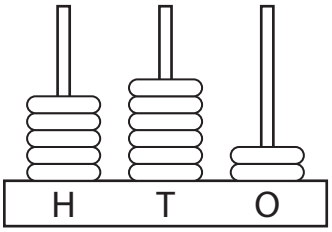
b) Write the numeral.



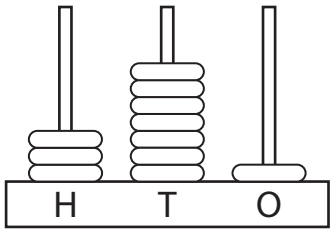
c) Write the numeral.



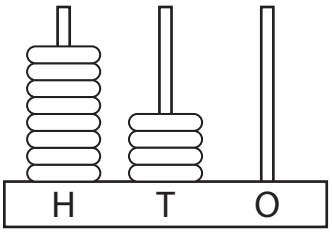
d) Write the numeral.



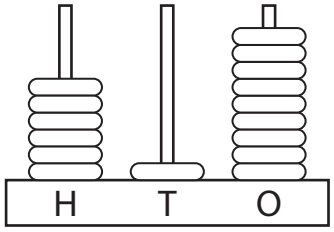
e) Write the numeral.



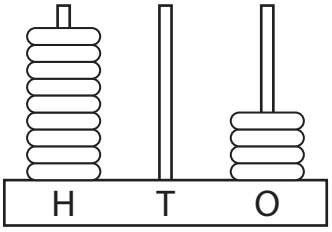
f) Write the numeral.



g) Write the numeral.



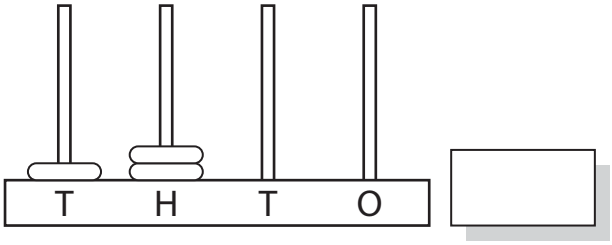
h) Write the numeral.



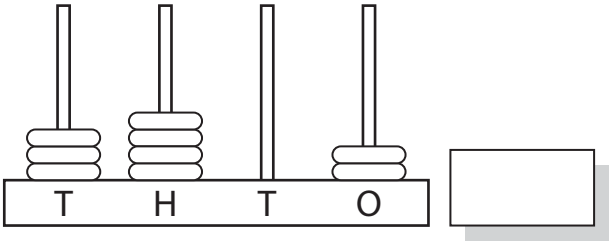
Skill 10.2 Writing numbers illustated by an abacus showing place values (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

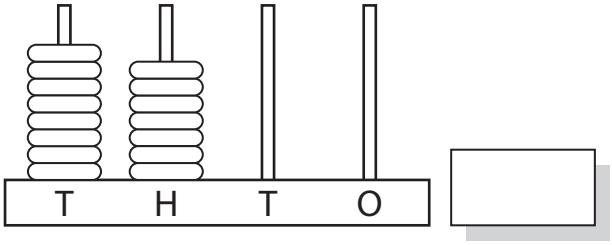
i) Write the numeral.



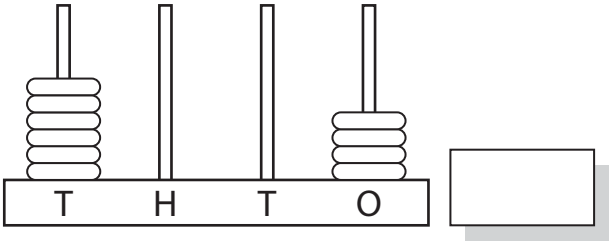
j) Write the numeral.



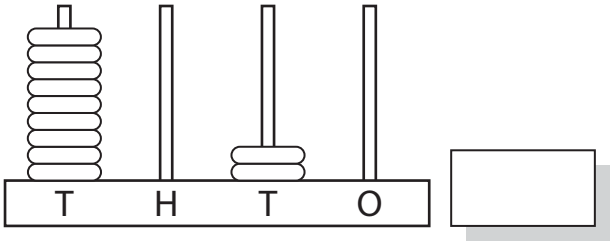
k) Write the numeral.



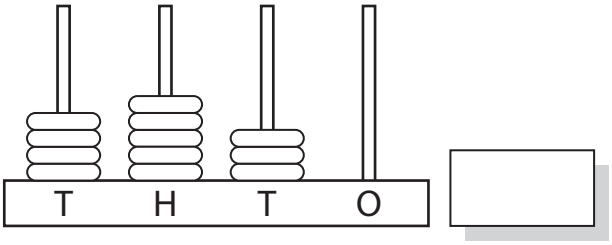
l) Write the numeral.



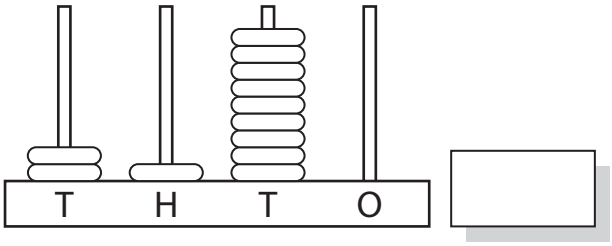
m) Write the numeral.



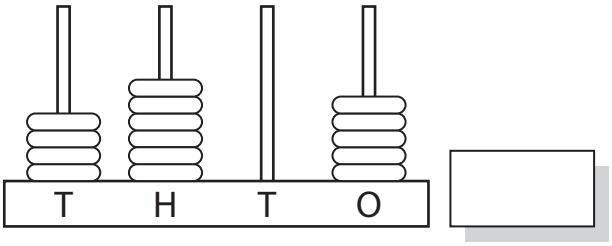
n) Write the numeral.



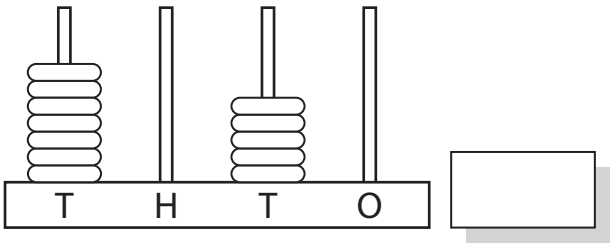
o) Write the numeral.



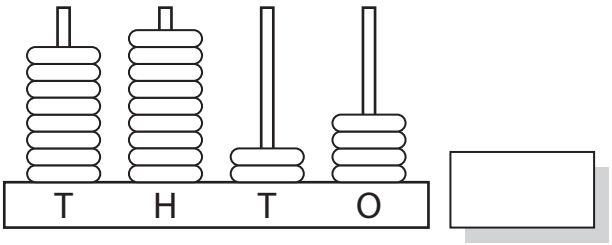
p) Write the numeral.



q) Write the numeral.



r) Write the numeral.



Skill 10.3 Writing the expansion of a number by identifying the digit in each place.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Identify the place of each digit.
  Hint: Starting from the right the places are: ones, tens, hundreds and thousands.
- Write the digit to match the place.

Q. Expand 508 by filling in the place value table.

Hundreds	Tens	Ones

A.

Hundreds	Tens	Ones
5	*0*	*8*

a) Expand 45.

4 tens 5 ones

b) Expand 51.

___ tens ___ one

c) Expand 62.

___ tens ___ ones

d) Expand 39.

___ tens ___ ones

e) Expand 228.

hundreds tens ones

f) Expand 583.

hundreds tens ones

g) Expand 476.

hundreds tens ones

h) Expand 901.

hundreds tens one

i) Expand 156 by filling in the place value table.

Hundreds	Tens	Ones

j) Expand 749 by filling in the place value table.

Hundreds	Tens	Ones

k) Expand 6815 by filling in the place value table.

Thousands	Hundreds	Tens	Ones

l) Expand 2703 by filling in the place value table.

Thousands	Hundreds	Tens	Ones

Skill 10.4 Writing numbers by using the place values of each digit.

- Write the digits in order from left to right to form the number.
  Example: 7 thousands + 3 hundreds + 0 tens + 5 ones = 7305

Place			
Thousands	Hundreds	Tens	Ones
7	*3*	*0*	*5*

Q. Write the number:
3 hundreds + 5 tens + 9 ones =

A. ***359***

Place		
Hundreds	Tens	Ones
3	*5*	*9*

a) Write the number:
6 tens + 4 ones

64

b) Write the number:
5 tens + 2 ones

c) Write the number:
8 tens + 0 ones

d) Write the number:
7 hundreds + 1 ten + 3 ones =

e) Write the number:
4 hundreds + 3 tens + 7 ones =

f) Write the number:
1 hundred + 6 tens + 5 ones =

g) Write the number:
8 hundreds + 0 tens + 2 ones =

h) Write the number:
9 hundreds + 4 tens + 0 ones =

i) Write the number:
4 thousands + 5 hundreds + 8 tens + 5 ones =

j) Write the number:
7 thousands + 8 hundreds + 2 tens + 2 ones =

k) Write the number:
1 thousand + 3 hundreds + 6 tens + 9 ones =

l) Write the number:
5 thousands + 0 hundreds + 6 tens + 7 ones =

Skill 10.5 Writing the expansion of a number by adding the values of each digit based on its place.

- Say the number out loud.
  Example: 275 reads "two hundred and seventy-five".

  so 275 = 200 + 70 + 5

  Hint: Consider the exceptions for 2-digit numbers like 15 and 20.
  15 = 10 + 5
  20 = 20 + 0

Place		
Hundreds	Tens	Ones
2	***7***	***5***

Value		
200	***70***	***5***

Q. Write the value of each digit.

392 = ☐ + 90 + ☐

A. *392* = ***300*** + *90* + ***2***

three hundred and ninety-two

a) Write the value of each digit.

483 = 400 + 80 + 3

b) Write the value of each digit.

928 = 900 + ☐ + ☐

c) Write the value of each digit.

614 = 600 + ☐ + ☐

d) Write the value of each digit.

750 = 700 + ☐ + ☐

e) Write the value of each digit.

345 = ☐ + 40 + ☐

f) Write the value of each digit.

826 = ☐ + 20 + ☐

g) Write the value of each digit.

219 = ☐ + 10 + ☐

h) Write the value of each digit.

470 = ☐ + 70 + ☐

i) Write the value of each digit.

6257 = ☐ + 200 + ☐ + ☐

j) Write the value of each digit.

3142 = ☐ + 100 + ☐ + ☐

k) Write the value of each digit.

1875 = ☐ + 800 + ☐ + ☐

l) Write the value of each digit.

8390 = ☐ + 300 + ☐ + ☐

Skill 10.6 Recognising the place of a digit in a number.

Hint: Starting from the right, the places are: ones, tens, hundreds and thousands.

Place			
Thousands	Hundreds	Tens	Ones
1	*0*	*6*	*9*

Q. In the number 761 which of the digits 7, 6 or 1 lies in the tens place?

A. *6*

Place		
Hundreds	Tens	Ones
7	*6*	*1*

a) In the number 25 which of the digits 2 or 5 lies in the tens place? 2

b) In the number 63 which of the digits 6 or 3 lies in the ones place?

c) In the number 84 which of the digits 8 or 4 lies in the tens place?

d) In the number 324 which of the digits 3, 2 or 4 lies in the ones place?

e) In the number 562 which of the digits 5, 6 or 2 lies in the tens place?

f) In the number 816 which of the digits 8, 1 or 6 lies in the hundreds place?

g) In the number 359 which of the digits 3, 5 or 9 lies in the hundreds place?

h) In the number 490 which of the digits 4, 9 or 0 lies in the ones place?

i) Circle the hundreds digit in the number:

7 5 1

j) Circle the tens digit in the number:

2 8 4

k) Circle the ones digit in the number:

4 8 3

l) Circle the thousands digit in the number:

5 1 4 9

m) Circle the hundreds digit in the number:

1 8 3 6

n) Circle the thousands digit in the number:

6 2 4 0

Skill 10.7 Finding the value of a digit in a number.

- If the digit is in the thousands place, add 3 zeros to show its value.
- If the digit is in the hundreds place, add 2 zeros to show its value.
- If the digit is in the tens place, add 1 zero to show its value.
- If the digit is in the ones place, that is its value.

Place			
Thousands	Hundreds	Tens	Ones
3	*4*	*2*	*0*
Value			
3000	*400*	*20*	*0*

Q. In which number does the digit 5 have lesser value?

A) 845 B) 512

A. ***A***

845 5 is in the ones place ⇒ value 5
512 5 is in the hundreds place ⇒ value 500
5 < 500

a) What is the value of the 8 in 248?

A) 8
B) 80
C) 800

A

b) What is the value of the 5 in 659?

A) 5
B) 50
C) 500

c) What is the value of the 4 in 4327?

A) 40
B) 400
C) 4000

d) What is the value of the 6 in 1768?

A) 60
B) 600
C) 6000

e) What is the value of the underlined digit in 3<u>7</u>5?

A) 7
B) 70
C) 700

f) What is the value of the underlined digit in <u>3</u>27?

A) 3
B) 30
C) 300

g) In which number does the digit 1 have lesser value?

A) 461 B) 217

h) In which number does the digit 7 have lesser value?

A) 270 B) 587

i) In which number does the digit 4 have greater value?

A) 748 B) 419

j) In which number does the digit 8 have greater value?

A) 281 B) 958

k) In which number does the digit 5 have lesser value?

A) 2359 B) 1564

l) In which number does the digit 3 have greater value?

A) 1432 B) 5903

Skill 10.8 Writing the largest or the smallest number when the digits are given.

MM3 1 1 2 2 3 3 4
MM4 1 1 2 2 3 3 4 4

Writing the largest number
- Write the digits from largest to smallest.

Writing the smallest number
- Write the digits from smallest to largest.

Q. Write the smallest 3-digit number that contains the digits 4, 7 and 3.

A. ***347***

a) Write the largest 2-digit number that contains the digits 3 and 7.

73

b) Write the largest 2-digit number that contains the digits 4 and 9.

c) Write the largest 2-digit number that contains the digits 1 and 6.

d) Write the smallest 2-digit number that contains the digits 1 and 5.

e) Write the largest 3-digit number that contains the digits 7, 2 and 4.

f) Write the smallest 3-digit number that contains the digits 8, 3 and 6.

g) Write the smallest 3-digit number that contains the digits 6, 1 and 8.

h) Write the largest 3-digit number that contains the digits 7, 4 and 9.

i) Write the smallest 4-digit number that contains the digits 3, 1, 5 and 2.

j) Write the largest 4-digit number that contains the digits 5, 7, 9 and 3.

k) Write the largest 4-digit number that contains the digits 2, 9, 4 and 7.

l) Write the smallest 4-digit number that contains the digits 6, 1, 5 and 2.

m) Write the smallest 4-digit number that contains the digits 2, 7, 6 and 4.

n) Write the largest 4-digit number that contains the digits 3, 8, 5 and 1.

Skill 10.9 Comparing numbers by using < or >.

- Compare the value of the digits in the same place, one at a time.
- Work from left to right across each number.
- Use less than (<) when the number on the left is less than the number on the right.
- Use greater than (>) when the number on the left is greater than the number on the right.

Q. 51 is less than (<) 26
True or false?

A. ***false***
5 is greater than 2 so
51 is greater than 26, **not** less than.

a) 35 is less than (<) 76
True or false? true

b) 42 is greater than (>) 83
True or false? ____

c) 39 is greater than (>) 46
True or false? ____

d) 91 is greater than (>) 34
True or false? ____

e) 471 is greater than (>) 714
True or false? ____

f) 265 is less than (<) 256
True or false? ____

g) Use greater than (>) or less than (<) to make this statement true.
18 ____ 54

h) Use greater than (>) or less than (<) to make this statement true.
49 ____ 38

i) Use greater than (>) or less than (<) to make this statement true.
273 ____ 237

j) Use greater than (>) or less than (<) to make this statement true.
859 ____ 895

k) Use greater than (>) or less than (<) to make this statement true.
581 ____ 518

l) Use greater than (>) or less than (<) to make this statement true.
627 ____ 672

m) Use greater than (>) or less than (<) to make this statement true.
493 ____ 349

n) Use greater than (>) or less than (<) to make this statement true.
789 ____ 798

Skill 10.10 Ordering numbers.

Hint: 1-digit numbers are less than 2-digit numbers, which are less than 3-digit numbers, etc.

- Compare the size of the digits in the same place, one at a time.
- Work from left to right across each number.

Q. Place in order from largest to smallest:

189, 93, 4, 11, 240

A. ***240, 189, 93, 11, 4***

3-digit numbers: 189, 240
2 is larger than 1 so 240 is larger than 189.

2-digit numbers: 93, 11
9 is larger than 1 so 93 is larger than 11.

1-digit numbers: 4

a) Place in order from smallest to largest:

31, 13, 3, 11

3, 11, 13, 31

b) Place in order from largest to smallest:

7, 87, 17, 71, 8

c) Place in order from largest to smallest:

66, 604, 406, 46

d) Place in order from smallest to largest:

209, 90, 29, 92, 200

e) Place in order from largest to smallest:

32, 75, 311, 40, 128

f) Place in order from smallest to largest:

13, 521, 38, 124, 9

g) Place in order from smallest to largest:

843, 348, 483, 384

h) Place in order from largest to smallest:

312, 123, 231, 321

i) Place in order from largest to smallest:

546, 456, 54, 56, 465

j) Place in order from smallest to largest:

88, 800, 80, 448, 408,

11. [Word Numbers]

Skill 11.1 Expressing word numbers in numerals (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Write the digits in order from left to right.
- Write a zero in any place that is left empty between other digits.
  Example: Two hundred and one
  2 0 1

Place		
Hundreds	Tens	Units
2	*0*	*1*

ten	10	eleven	11
twenty	20	twelve	12
thirty	30	thirteen	13
forty	40	fourteen	14
fifty	50	fifteen	15
sixty	60	sixteen	16
seventy	70	seventeen	17
eighty	80	eighteen	18
ninety	90	nineteen	19

Q. Write in numerals:
five thousand, four hundred and two

A. ***5402***

Place			
Thousands	Hundreds	Tens	Units
5	*4*	*0*	*2*

a) Write in numerals:
fifteen — 15

b) Write in numerals:
twenty-seven

c) Write in numerals:
fifty-one

d) Write in numerals:
eighty-four

e) Write in numerals:
ten

f) Write in numerals:
ninety

g) Write in numerals:
six hundred and four

h) Write in numerals:
three hundred and six

i) Write in numerals:
five hundred

j) Write in numerals:
eight hundred

k) Write in numerals:
two hundred and fifteen

l) Write in numerals:
one hundred and ninety-seven

Skill 11.1 Expressing word numbers in numerals (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

m) Write in numerals:
seven hundred and eighteen

n) Write in numerals:
nine hundred and sixty-seven

o) Write in numerals:
nine thousand

p) Write in numerals:
eight thousand

q) Write in numerals:
one thousand and five

r) Write in numerals:
two thousand and one

s) Write in numerals:
one thousand and fifty-two

t) Write in numerals:
one thousand, three hundred

u) Write in numerals:
eight thousand and twenty-four

v) Write in numerals:
two thousand, three hundred and eight

w) Write in numerals:
four thousand, five hundred and forty-seven

x) Write in numerals:
seven thousand, eight hundred and six

y) Write in numerals:
twenty-five thousand

z) Write in numerals:
sixty-three thousand

A) Write in numerals:
ten thousand and ninety-six

B) Write in numerals:
fifty-one thousand and thirteen

C) Write in numerals:
forty thousand, eight hundred

D) Write in numerals:
fifteen thousand, three hundred and thirty

Skill 11.2 Writing 2-digit numbers in words.

- Write the word for the value of the tens.
- Write the word for the value of the units.

Example:

tens value

74 = seventy-four

units value

10 ten	11 eleven
20 twenty	12 twelve
30 thirty	13 thirteen
40 forty	14 fourteen
50 fifty	15 fifteen
60 sixty	16 sixteen
70 seventy	17 seventeen
80 eighty	18 eighteen
90 ninety	19 nineteen

Q. Write the number 26 in words.

A. ***twenty-six***

Place	
Tens	Units
2	*6*

Value	
20	*6*

a) Write the number 11 in words.

eleven

b) Write the number 15 in words.

c) Write the number 19 in words.

d) Write the number 38 in words.

e) Write the number 64 in words.

f) Write the number 59 in words.

g) Write the number 81 in words.

h) Write the number 93 in words.

i) Write the number 20 in words.

j) Write the number 70 in words.

k) Write the number 50 in words.

l) Write the number 30 in words.

Skill 11.3 Writing 3-digit numbers in words.

- Write the word for the value of the hundreds.
- Always write 'hundred' not hundreds.
- Write the word 'and' if other values follow.
- Then write the word for the value of the tens.
- Write the word for the value of the units.

Hint: Consider the exceptions for 2-digit numbers like 15 (fifteen) and 20 (twenty).

Q. Write the number 491 in words.

A. ***four hundred and ninety-one***

Place		
Hundreds	Tens	Units
4	*9*	*1*

Value		
400	*90*	*1*

a) Write the number 400 in words.

four hundred

b) Write the number 101 in words.

c) Write the number 207 in words.

d) Write the number 600 in words.

e) Write the number 161 in words.

f) Write the number 708 in words.

g) Write the number 312 in words.

h) Write the number 850 in words.

i) Write the number 514 in words.

j) Write the number 470 in words.

k) Write the number 306 in words.

l) Write the number 220 in words.

Skill 11.4 Writing 4-digit numbers in words.

- Write the word for the value of the thousands.
- Always write 'thousand' not thousands.
- Write the word 'and' if there are no hundreds.
- Write the word for the value of the hundreds.
- Always write 'hundred' not hundreds.
- Write the word 'and' if other values follow.
- Then write the word for the value of the tens.
- Write the word for the value of the units.

Hint: Consider the exceptions for 2-digit numbers like 15 (fifteen) and 20 (twenty).

Q. Write the number 9007 in words.

A. ***nine thousand and seven***

Place			
Thousands	Hundreds	Tens	Units
9	*0*	*0*	*7*

Value			
9000	*0*	*0*	*7*

Skip the value of the hundreds.
Skip the value of the tens.

a) Write the number 5000 in words.

five thousand

b) Write the number 7002 in words.

c) Write the number 2060 in words.

d) Write the number 8000 in words.

e) Write the number 1026 in words.

f) Write the number 3010 in words.

g) Write the number 2043 in words.

h) Write the number 4035 in words.

i) Write the number 5003 in words.

j) Write the number 9200 in words.

k) Write the number 1040 in words.

l) Write the number 8600 in words.

Skill 11.5 Writing 5-digit numbers in words.

- Group and write the first two digits from the left as a 2-digit number.
- Always write 'thousand' not thousands.
- Write the word 'and' if there are no hundreds.
- Write the word for the value of the hundreds.
- Always write 'hundred' not hundreds.
- Write the word 'and' if other values follow.
- Then write the word for the value of the tens.
- Write the word for the value of the units.

Hint: Consider the exceptions for 2-digit numbers like 15 (fifteen) and 20 (twenty).

Q. Write the number 82 000 in words.

A. ***eighty-two thousand***

Place				
Ten Thousands	Thousands	Hundreds	Tens	Units
8	*2*	*0*	*0*	*0*

Value				
80 000	*2000*	*0*	*0*	*0*

Skip the values of the hundreds, tens and units.

a) Write the number 26 000 in words.

twenty-six thousand

b) Write the number 54 000 in words.

c) Write the number 97 000 in words.

d) Write the number 40 200 in words.

e) Write the number 50 600 in words.

f) Write the number 39 000 in words.

g) Write the number 12 600 in words.

h) Write the number 10 070 in words.

i) Write the number 50 030 in words.

j) Write the number 10 400 in words.

12. [Money]

Skill 12.1 Recognising coins and values of coins.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- If the coin is gold it will be worth 1 dollar or 2 dollars. These values are written on the coins.
- If the coin is silver, find the number written on the coin. This number is the worth of the coin in cents.


100 cents


200 cents

Q. Circle the coin with the greatest value.



A.


$1
= 100 cents


10 cents


20 cents

a) What is the value of the coin?

5 cents

b) What is the value of the coin?

dollars

c) What is the value of the coin?

dollar

d) What is the value of the coin?

cents

e) Circle the coin with the least value.



f) Circle the coin with the greatest value.



g) Circle the coin with the least value.



h) Circle the coin with the greatest value.



Skill 12.2 Recognising notes and values of notes (1).

- Find the number written on the note.
  This number is the worth of the note in dollars.

Q. Which note has the greatest value?

A) 

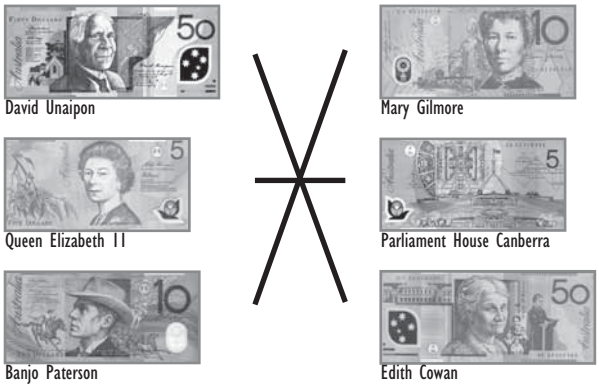
B) 

C) 

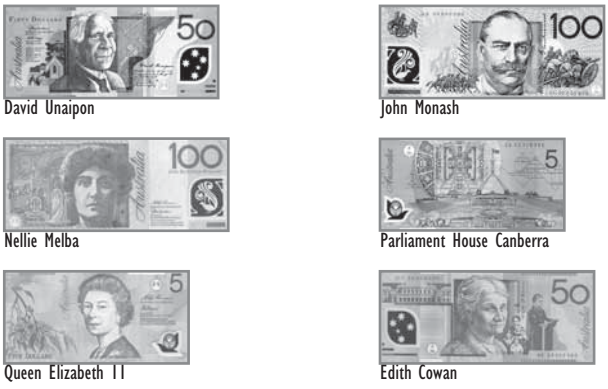
A. ***A***

A) $100
B) $5
C) $50
So A has the greatest value.

a) Match the fronts to the backs of the notes.



b) Match the fronts to the backs of the notes.



c) What is the value of the note?

dollars

d) What is the value of the note?

dollars

e) What is the value of the note?

dollars

f) What is the value of the note?

dollars

Skill 12.2 Recognising notes and values of notes (2).

g) Which note has the greatest value?

A) 

B) 

C) 

h) Which note has the smallest value?

A) 

B) 

C) 

i) Which note has the smallest value?

A) 

B) 

C) 

j) Which note has the greatest value?

A) 

B) 

C) 

k) Which note has the greatest value?

A) 

B) 

C) 

l) Which note has the smallest value?

A) 

B) 

C) 

m) Which note has the smallest value?

A) 

B) 

C) 

n) Which note has the greatest value?

A) 

B) 

C) 

Skill 12.3 Adding values of coins and notes (1).

- Add the cents first.
  Hint: 100 cents = $1

Q. How much money in total?

A. *50¢ + 20¢ + 10¢ =* ***80¢***

a) How much money in total?

10¢ + 5¢ + 50¢ = 65 ¢

b) How much money in total?

= ¢

c) How much money in total?

= ¢

d) How much money in total?

= $

e) How much money in total?

= $

f) How much money in total?

= $

g) How much money in total?

= $

h) How much money in total?

= $

Skill 12.3 Adding values of coins and notes (2).

i) How much money in total?

..... = $ ____

j) How much money in total?

..... = $ ____

k) How much money in total?

..... = $ ____

l) How much money in total?

..... = $ ____

m) How much money in total?

..... = $ ____

n) How much money in total?

..... = $ ____

o) How much money in total?

..... = $ ____

p) How much money in total?

..... = $ ____

q) How much money in total?

..... = $ ____

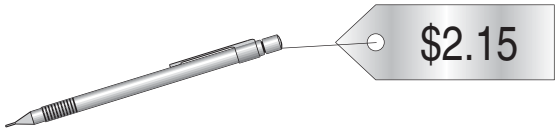
r) How much money in total?

..... = $ ____

Skill 12.4 Counting collections of coins and notes to make up a value shown on a price tag (1).

- Circle the whole dollars first, if needed.
- Using trial and error, try to find how to make up the cent amount.

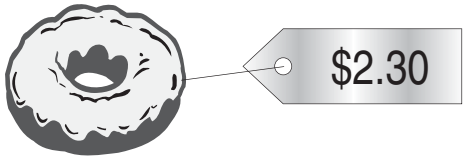
Q. Circle the exact money needed to buy the pencil.

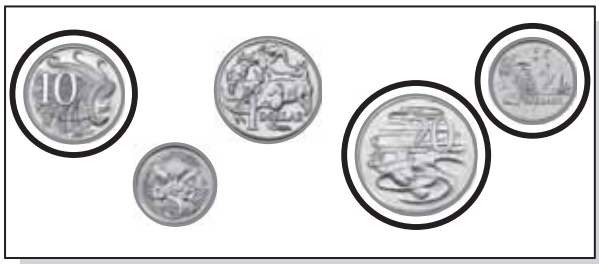


A.

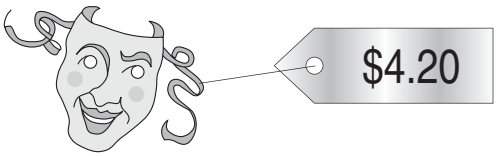
Circle the $2 first.
To make 15¢ you need a 10¢ and a 5¢.

a) Circle the exact money needed to buy the iced donut.

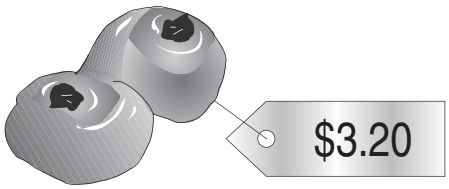




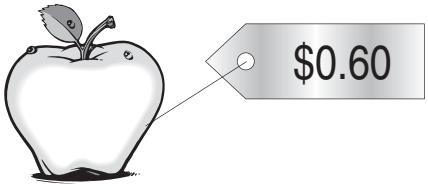
b) Circle the exact money needed to buy the mask.



c) Circle the exact money needed to buy the coffee scroll.



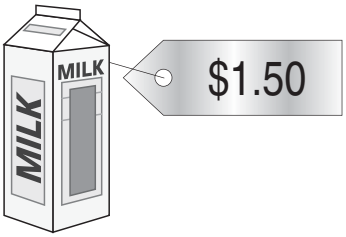
d) Circle the exact money needed to buy the apple.



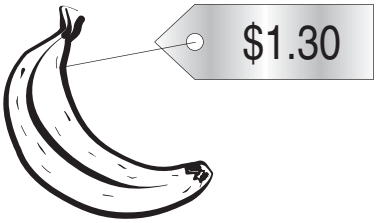
Skill 12.4 Counting collections of coins and notes to make up a value shown on a price tag (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

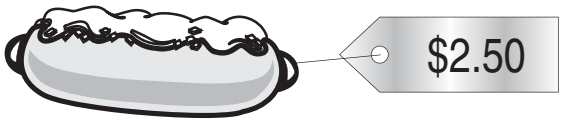
e) Circle the exact money needed to buy a litre of milk.



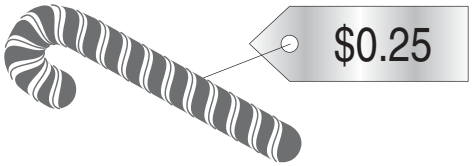
f) Circle the exact money needed to buy the banana.



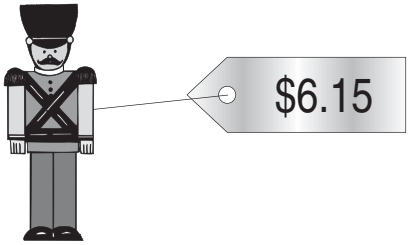
g) Circle the exact money needed to buy the hotdog.



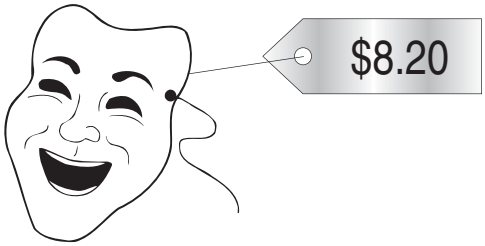
h) Circle the exact money needed to buy the candy cane.



i) Circle the exact money needed to buy the toy soldier.



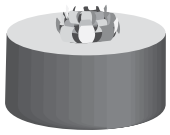
j) Circle the exact money needed to buy the mask.



Skill 12.5 Comparing prices (1).

- Find which item is less than the amount you have.

Q. You have $25. Which item can you afford to buy?

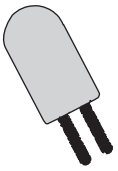
A)  B)  C) 

$25.50	$25.99	$24.99

A. *C*

A) $25.50 is more than $25.
B) $25.99 is more than $25.
C) Only $24.99 is less than $25.

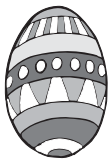
a) You have 60¢. Which item can you afford to buy?

A)  B)  C) 

55¢	65¢	70¢

A

b) You have 90¢. Which item can you afford to buy?

A)  B)  C) 

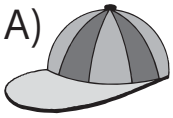
99¢	85¢	95¢

c) You have $3. Which item can you afford to buy?

A)  B)  C) 

$3.50	$3.05	$2.50

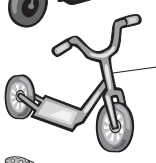
d) You have $20. Which item can you afford to buy?

A)  B)  C) 

$20.20	$18.20	$22.20

e) You have $65. Which item can you afford to buy?

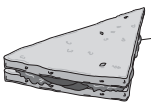
A)  $69.95

B)  $70

C)  $60.95

f) You have $5. Which item can you afford to buy?

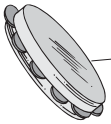
A)  $5.50

B)  $4.50

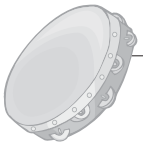
C)  $6.99

Skill 12.5 Comparing prices (2).

g) You have $20. Which item can you afford to buy?

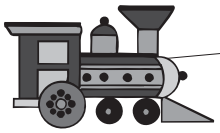
A)  $25

B)  $18.50

C)  $30

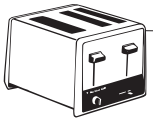
h) You have $30. Which item can you afford to buy?

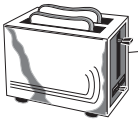
A)  $28.75

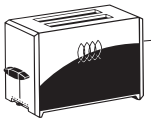
B)  $30.50

C)  $32.25

i) You have $25. Which item can you afford to buy?

A)  $35.95

B)  $28.95

C)  $22.95

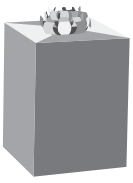
j) You have $35. Which item can you afford to buy?

A)  $35.50

B)  $30.50

C)  $36

k) You have $20. Which item can you afford to buy?

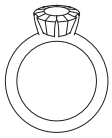
A)  $19.75

B)  $20.05

C)  $22

l) You have $500. Which item can you afford to buy?

A)  $450

B)  $850

C)  $750

Skill 12.6 Counting collections of identical coins to make up a cost.

- Count by the smaller amount until you reach the larger amount.

OR

- Divide the smaller amount into the larger amount.

Q. How many 5¢ coins make 50¢?

A. ***10***

5, 10, 15, 20, 25, 30, 35, 40, 45, 50

10 times

OR

50 ÷ 5 = 10

a) How many 10¢ coins make 20¢?

2

b) How many 10¢ coins make 40¢?

c) How many 5¢ coins make 10¢?

d) How many 5¢ coins make 25¢?

e) How many 20¢ coins make $1.00?

f) How many 10¢ coins make 70¢?

g) How many 10¢ coins make $1.00?

h) How many 50¢ coins make $2.00?

i) How many 20¢ coins make $2.00?

j) How many 5¢ coins make $1.00?

k) How many 10¢ coins make $1.30?

l) How many 20¢ coins make $3.00?

m) How many 50¢ coins make $5.00?

n) How many 20¢ coins make $5.00?

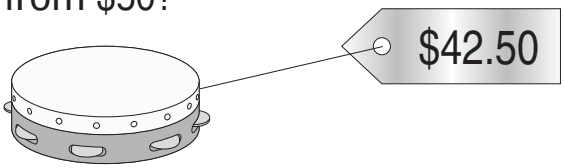
o) How many 50¢ coins make $10.00?

p) How many 5¢ coins make 45¢?

Skill 12.7 Calculating change.

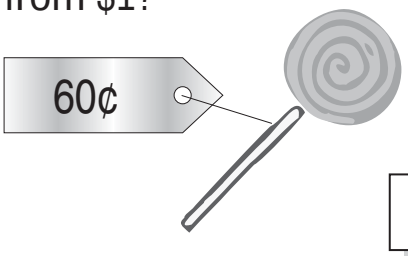
- Count on from the price to make whole dollars or workable amounts like 50¢.
- Add the amounts that you count on.

Q. How much change would you get from $50?



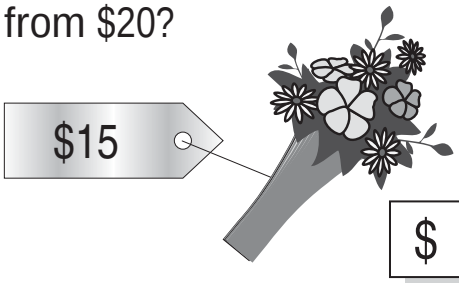
A. *$42.50 + 50¢ = $43* Count on.
$43 + $7 = $50
50¢ + $7 = ***$7.50*** Add the amounts that you count on.

a) How much change would you get from $1?



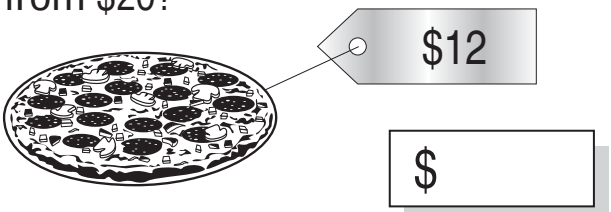
40 ¢

b) How much change would you get from $20?



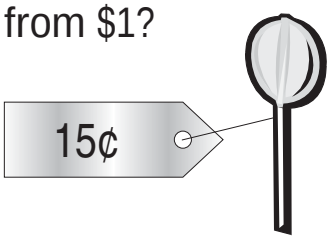
$

c) How much change would you get from $20?



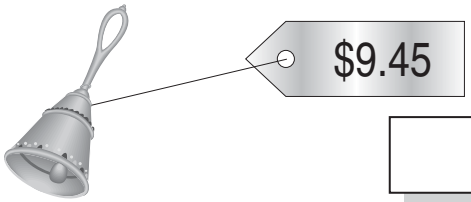
$

d) How much change would you get from $1?



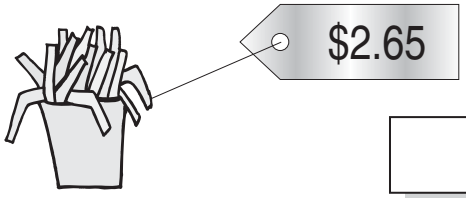
¢

e) How much change would you get from $10?



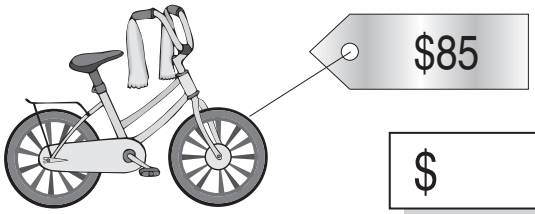
¢

f) How much change would you get from $3?



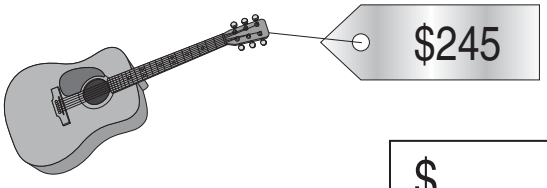
¢

g) How much change would you get from $100?



$

h) How much change would you get from $300?

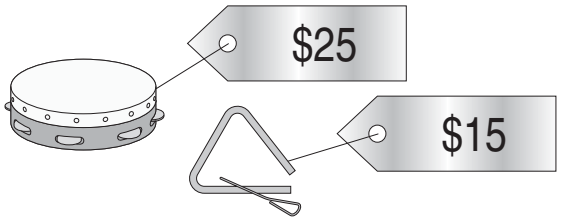


$

Skill 12.8 Adding two or more prices in dollars and cents (1).

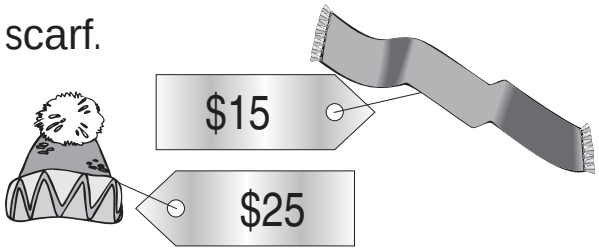
- Add the dollars.
- Add the cents.
- If you have lots of the same coin, add these separately.
  Example: 2 one-dollar coins = $1 + $1 = $2
  3 fifty-cent coins = 50¢ + 50¢ + 50¢ = $1.50

Q. Calculate the cost of 2 triangles and 1 tambourine.



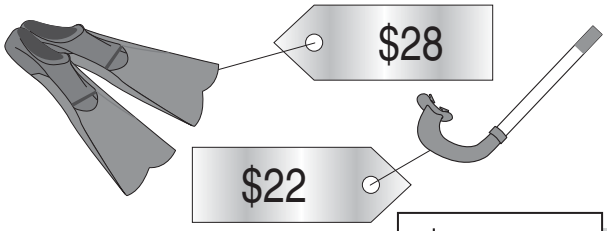
A. *$15 + $15 + $25*
= *$30 + $25*
= ***$55***

a) Calculate the cost of a hat and a scarf.



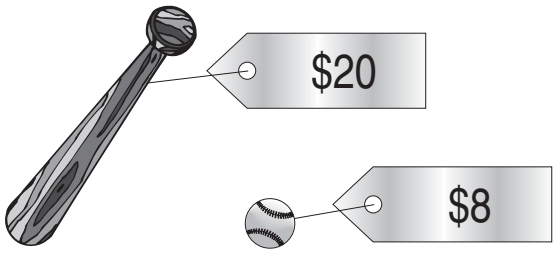
$ 40

b) Calculate the cost of 1 pair of flippers and 1 snorkel.



$

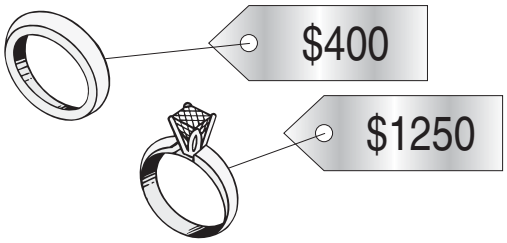
c) Calculate the cost of 2 balls and 1 bat.



$8 + $8 + $20

= *$16 + $20* = $

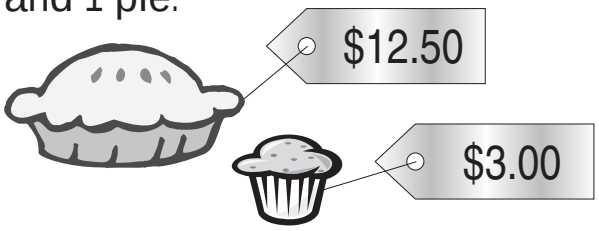
d) Calculate the cost of a wedding ring and an engagement ring.



$

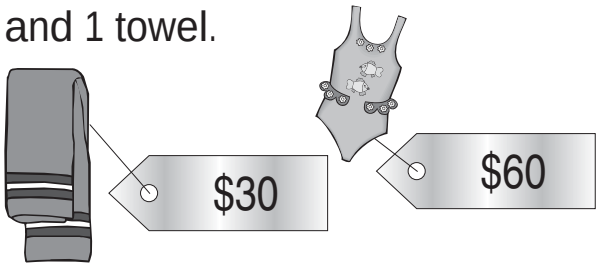
Skill 12.8 Adding two or more prices in dollars and cents (2).

e) Calculate the cost of 2 muffins and 1 pie.



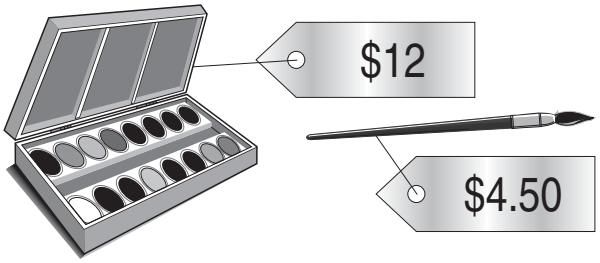
= ..... = $ ☐

f) Calculate the cost of 2 swimsuits and 1 towel.



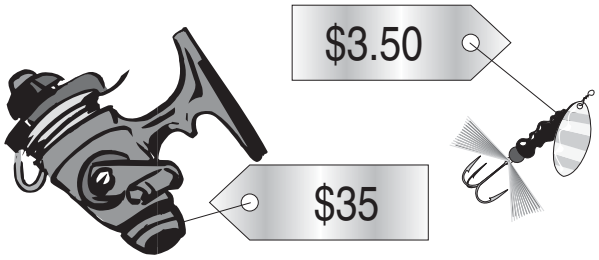
= ..... = $ ☐

g) Calculate the cost of 1 water colour set and 2 art brushes.



= ..... = $ ☐

h) Calculate the cost of 1 reel and 2 hooks.



= ..... = $ ☐

i) What is the total value of:

2 five-cent coins and
4 ten-cent coins?

= ..... = ¢ ☐

j) What is the total value of:

3 ten-cent coins and
2 twenty-cent coins?

= ..... = ¢ ☐

k) What is the total value of:

2 twenty-cent coins and
1 fifty-cent coin?

= ..... = ¢ ☐

l) What is the total value of:

3 fifty-cent coins and
6 five-cent coins?

= ..... = $ ☐

Skill 12.8 Adding two or more prices in dollars and cents (3).

m) What is the total value of:

1 ten-cent coin,
1 twenty-cent coin and
1 fifty-cent coin?

.....

= ..... = ¢

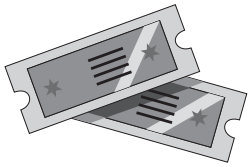
n) What is the total value of:

1 one-dollar coin,
1 fifty-cent coin and
3 twenty-cent coins?

.....

= ..... = $

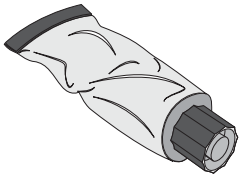
o) Calculate the cost of 2 tickets to the football at $3.05 each.



.....

= ..... = $

p) Calculate the cost of 2 tubes of paint at $4.25 each.



.....

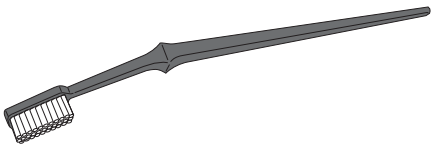
= ..... = $

q) Calculate the cost of 2 paint brushes at $2.10 each.

.....

= ..... = $

r) Calculate the cost of 2 toothbrushes at $4.55 each.



.....

= ..... = $

s) Calculate the total cost of:

sushi at $3.50
a drink at $2.50
a toy at $1.00

.....

= ..... = $

t) Calculate the total cost of:

a pie at $4.50
a cake at $3.50
a drink at $2.50

.....

= ..... = $

13. [Number Patterns]

Skill 13.1 Completing number patterns by adding the same number (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Find the amount added to get from one number to the next number.
- Add that amount to the last number of the pattern.

Q. 3 , 9 , 15 , 21 , 27 , __ , __

A. 3 , 9 , 15 , 21 , 27 , ***33*** , ***39***
+6 +6 +6 +6 +6 +6

a) 4 , 7 , 10 , 13 , 16 , 19 , 22
+3 +3 +3 +3 +3 +3

b) 4 , 6 , 8 , 10 , 12 , __ , __

c) 70 , 80 , 90 , 100 , __ , __

d) 25 , 35 , 45 , 55 , __ , __

e) 12 , 14 , 16 , 18 , 20 , __ , __

f) 24 , 28 , 32 , 36 , 40 , __ , __

g) 7 , 10 , 13 , 16 , 19 , __ , __

h) 1 , 7 , 13 , 19 , 25 , __ , __

i) 19 , 25 , 31 , 37 , __ , __

j) 37 , 40 , 43 , 46 , __ , __

k) 48 , 53 , 58 , 63 , 68 , __ , __

l) 16 , 21 , 26 , 31 , 36 , __ , __

Skill 13.1 Completing number patterns by adding the same number (2).

m) 26 , 30 , 34 , 38 , 42 , __ , __

n) 35 , 37 , 39 , 41 , 43 , __ , __

o) 38 , 44 , 50 , 56 , __ , __

p) 3 , 5 , 7 , 9 , 11 , __ , __

q) 7 , 17 , 27 , 37 , 47 , __ , __

r) 4 , 12 , 20 , 28 , 36 , __ , __

s) 7 , 15 , 23 , 31 , 39 , __ , __

t) 2 , 12 , 22 , 32 , 42 , __ , __

u) 54 , 56 , 58 , 60 , __ , __

v) 40 , 48 , 56 , 64 , __ , __

w) 9 , 12 , 15 , 18 , 21 , __ , __

x) 27 , 31 , 35 , 39 , 43 , __ , __

y) 13 , 18 , 23 , 28 , 33 , __ , __

z) 42 , 46 , 50 , 54 , 58 , __ , __

Skill 13.2 Completing number patterns by subtracting the same number (1).

MM3 1 2 3 4
MM4 1 2 3 4

- Find the amount taken away to get from one number to the next number.
- Subtract that amount from the last number of the pattern.

Q. 48 , 44 , 40 , 36 , __ , __

A. *48 , 44 , 40 , 36 , **32** , **28***

−4 −4 −4 −4 −4

a) 40 , 35 , 30 , 25 , 20 , 15

−5 −5 −5 −5 −5

b) 58 , 48 , 38 , 28 , __ , __

c) 24 , 22 , 20 , 18 , 16 , __ , __

d) 57 , 55 , 53 , 51 , 49 , __ , __

e) 48 , 45 , 42 , 39 , 36 , __ , __

f) 32 , 29 , 26 , 23 , 20 , __ , __

g) 46 , 40 , 34 , 28 , 22 , __ , __

h) 59 , 55 , 51 , 47 , 43 , __ , __

i) 25 , 23 , 21 , 19 , 17 , __ , __

j) 39 , 33 , 27 , 21 , 15 , __ , __

k) 63 , 57 , 51 , 45 , 39 , __ , __

l) 48 , 42 , 36 , 30 , 24 , __ , __

Skill 13.2 Completing number patterns by subtracting the same number (2).

m) 58 , 50 , 42 , 34 , 26 , __ , __

n) 75 , 65 , 55 , 45 , 35 , __ , __

o) 49 , 42 , 35 , 28 , 21 , __ , __

p) 44 , 39 , 34 , 29 , 24 , __ , __

q) 54 , 46 , 38 , 30 , 22 , __ , __

r) 83 , 73 , 63 , 53 , 43 , __ , __

s) 60 , 53 , 46 , 39 , 32 , __ , __

t) 47 , 42 , 37 , 32 , 27 , __ , __

u) 44 , 37 , 30 , 23 , 16 , __ , __

v) 49 , 41 , 33 , 25 , 17 , __ , __

w) 80 , 72 , 64 , 56 , 48 , __ , __

x) 60 , 51 , 42 , 33 , 24 , __ , __

y) 45 , 38 , 31 , 24 , 17 , __ , __

z) 50 , 42 , 34 , 26 , 18 , __ , __

Skill 13.3 Completing number patterns by adding changing numbers.

- Find the amounts added to get from one number to the next number.
- Check all the way through the pattern.
- Add these amounts in order to the last number of the pattern.

Q. 2 , 4 , 7 , 9 , 12 , __ , __

A. 2 , 4 , 7 , 9 , 12 , **14** , **17**
+2 +3 +2 +3 +2 +3

a) 1 , 5 , 7 , 11 , 13 , 17 , 19
+4 +2 +4 +2 +4 +2

b) 4 , 5 , 10 , 11 , 16 , __ , __

c) 2 , 6 , 7 , 11 , 12 , __ , __

d) 4 , 7 , 11 , 14 , 18 , __ , __

e) 1 , 5 , 10 , 14 , 19 , __ , __

f) 3 , 6 , 8 , 11 , 13 , __ , __

g) 2 , 4 , 8 , 10 , 14 , __ , __

h) 4 , 7 , 12 , 15 , 20 , __ , __

i) 8 , 9 , 12 , 13 , 16 , __ , __

j) 2 , 4 , 9 , 11 , 16 , __ , __

k) 6 , 8 , 14 , 16 , 22 , __ , __

l) 5 , 8 , 9 , 12 , 13 , __ , __

m) 4 , 8 , 11 , 15 , 18 , __ , __

n) 2 , 7 , 8 , 13 , 14 , __ , __

Skill 13.4 Completing number patterns by subtracting changing numbers.

MM3 1 1 2 2 3 3 4
MM4 1 1 2 2 3 4 4

- Find the amounts taken away to get from one number to the next number.
- Check all the way through the pattern.
- Subtract these amounts in order from the last number of the pattern.

Q. 22 , 20 , 16 , 14 , 10 , __ , __

A. 22 , 20 , 16 , 14 , 10 , **8** , **4**

−2 −4 −2 −4 −2 −4

a) 22 , 20 , 15 , 13 , 8 , 6 , 1

−2 −5 −2 −5 −2 −5

b) 17 , 14 , 13 , 10 , 9 , __ , __

c) 21 , 20 , 15 , 14 , 9 , __ , __

d) 27 , 24 , 20 , 17 , 13 , __ , __

e) 28 , 25 , 20 , 17 , 12 , __ , __

f) 25 , 21 , 18 , 14 , 11 , __ , __

g) 29 , 25 , 20 , 16 , 11 , __ , __

h) 33 , 30 , 28 , 25 , 23 , __ , __

i) 26 , 22 , 20 , 16 , 14 , __ , __

j) 25 , 23 , 18 , 16 , 11 , __ , __

k) 19 , 17 , 16 , 14 , 13 , __ , __

l) 30 , 28 , 22 , 20 , 14 , __ , __

Skill 13.5 Completing number patterns by multiplying by the same number.

- Find the amount you multiply by to get from one number to the next number.
- Multiply the last number of the pattern by that amount.

Q. 4 , 8 , 16 , 32 , ☐

A. 4 , 8 , 16 , 32 , ***64***

×2 ×2 ×2 ×2

a) 15 , 30 , 60 , 120 , 240

×2 ×2 ×2 ×2

b) 2 , 6 , 18 , 54 , ☐

c) 30 , 60 , 120 , 240 , ☐

d) 5 , 15 , 45 , 135 , ☐

e) 4 , 12 , 36 , 108 , ☐

f) 9 , 27 , 81 , 243 , ☐

g) 10 , 30 , 90 , 270 , ☐

h) 20 , 60 , 180 , 540 , ☐

i) 1 , 5 , 25 , 125 , ☐

j) 1 , 10 , 100 , 1000 , ☐

k) 5 , 50 , 500 , 5000 , ☐

l) 10 , 50 , 250 , 1250 , ☐

m) 4 , 20 , 100 , 500 , ☐

n) 7 , 70 , 700 , 7000 , ☐

14. [Measuring]

Skill 14.1 Comparing objects based on their length (1).

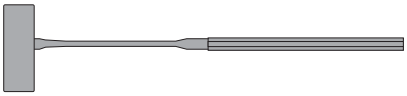
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Use a piece of string, paper or a ruler to check the length of each object if possible.
- Use your best estimate.
- Compare the given lengths.

Q. Which bat is the longest?

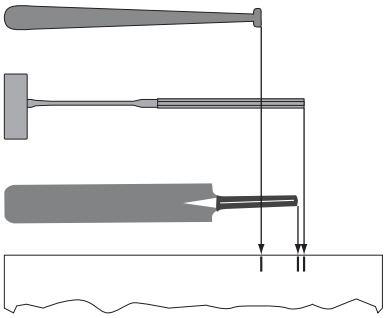
A)

B)



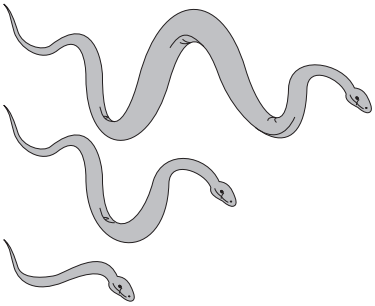
C)

A. ***B***



a) Which snake is the longest?

A)



B)

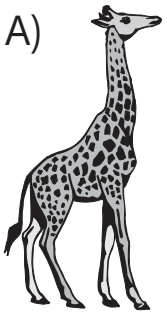
C)

A

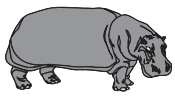
b) Circle the cat with the shortest tail.

c) Which animal is the tallest?

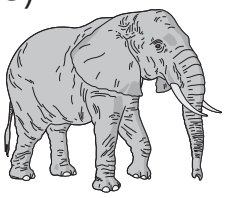
A)



B)



C)



d) Which landmark is the shortest?

A)

B)

C)

e) Which animal is the tallest?

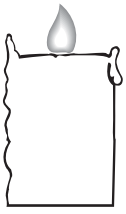
A)

B)

C)

f) Which candle is the widest?

A)



B)

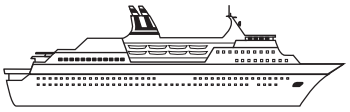
C)

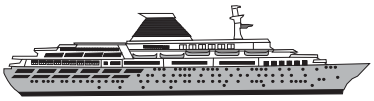
Skill 14.1 Comparing objects based on their length (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

g) Circle the rabbit with the longest ears.

h) Which ship is the longest?

A) 

B) 

C) 

i) Which is likely to be the longest?

A) car
B) scooter
C) train

j) Which is likely to be the shortest?

A) cup
B) toaster
C) kettle

k) Which is likely to be the shortest?

A) sword
B) javelin
C) relay baton

l) Which person is likely to be the tallest?

A) baby
B) woman
C) child

m) Which is likely to be the widest?

A) window
B) doorway
C) driveway

n) Which is likely to be the longest?

A) broom
B) axe
C) toilet brush

o) Which is the shortest?

A) paper clip
4 centimetres
B) hair brush
20 centimetres

p) Which rail trip is the longest?

A) The Ghan
2979 kilometres
B) The Indian Pacific
4352 kilometres

q) Which river is the shortest?

A) Murrumbidgee River
1485 kilometres
B) Darling River
1472 kilometres

r) Which shrub is the shortest?

A) Common Heath
2 metres
B) Golden Wattle
4 metres

Skill 14.2 Comparing objects based on their weight.

- Weigh the object if possible.
- Use your best estimate.
- Compare the given weights.

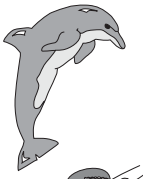
Q. Which animal is likely to weigh the least?

A)  B)  C) 

A. ***B***

a) Which animal is likely to weigh the most?

A) 

B) 

C) 

B

b) Which animal is likely to weigh the least?

A) 

B) 

C) 

c) Which animal is likely to weigh the least?

A)  B)  C) 

d) Which animal is likely to weigh the most?

A)  B)  C) 

e) Which object is likely to weigh the most?

A) banana
B) cherry
C) strawberry

f) Which object is likely to weigh the least?

A) ship
B) paper plane
C) bicycle

g) Which weighs the least?

A) squash racquet = 150 grams
B) tennis racquet = 280 grams

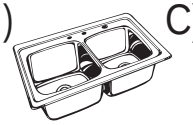
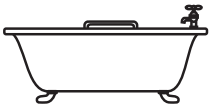
h) Which weighs the most?

A) can of fruit = 825 grams
B) can of soup = 420 grams

Skill 14.3 Comparing objects based on their capacity.

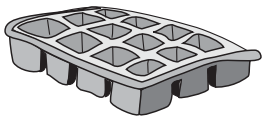
- Measure the volume if possible.
- Use your best estimate.
- Compare the given volumes.

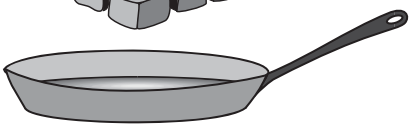
Q. Which container is likely to have the greatest capacity?

A)  B)  C) 

A. *C*

a) Which container is likely to have the greatest volume?

A) 

B) 

C) 

B

b) Which container is likely to have the least capacity?

A) 

B) 

C) 

c) Which ball has the greatest volume?

A) 
Volleyball

B) 
Handball

C) 
Tennis ball

d) Which container is likely to hold the least volume?

A)  B)  C) 

e) Which object is likely to have the greatest capacity?

A) thimble
B) tea cup
C) match box

f) Which object is likely to have the least capacity?

A) petrol can
B) beer barrel
C) jam jar

g) Which object has the greatest capacity?

A) washing machine = 60 litres
B) laundry sink = 45 litres

h) Which object has the greatest volume?

A) sauce bottle = 500 millilitres
B) salad dressing bottle = 330 millilitres

Skill 14.4 Estimating length, weight and capacity by using the standard units of measurement.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

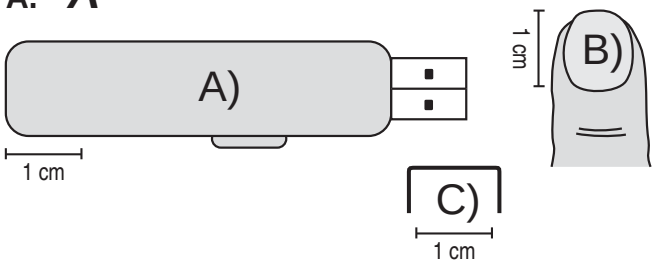
Measuring an object
- Check with a measuring instrument the given unit of length, weight or capacity.
- Compare the object with the unit.

Comparing objects
- Check with a measuring instrument the given unit of length, weight or capacity.
- Measure the given objects, if possible.

Q. Which object is **not** about 1 centimetre long?

A) USB drive
B) finger nail
C) staple

A. ***A***



a) A mug holds:

A) less than a litre
B) about a litre
C) more than a litre

A

b) The length of a calculator is:

A) less than a metre
B) about a metre
C) more than a metre

c) An orange weighs:

A) less than a kilogram
B) about a kilogram
C) more than a kilogram

d) The length of a lamp post is:

A) less than a metre
B) about a metre
C) more than a metre

e) Which item weighs about 1 kilogram?

A) BBQ
B) clothes iron
C) spoon

f) Which item would hold about 1 litre?

A) washing machine
B) thimble
C) carton of milk

g) Which object is about 1 centimetre long?

A) biro
B) envelope
C) drawing pin

h) Which object is **not** about 1 metre high?

A) guitar
B) ukulele
C) cello

i) Which item would hold about 1 litre?

A) thermos
B) pen refill
C) milk vat

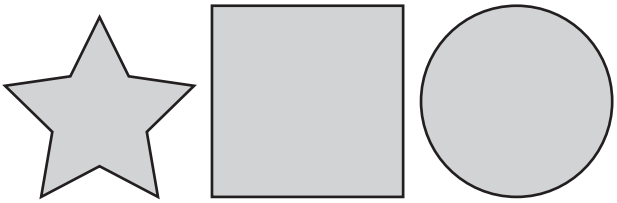
j) Which object is about 1 metre high?

A) stilts
B) pogo stick
C) roller blades

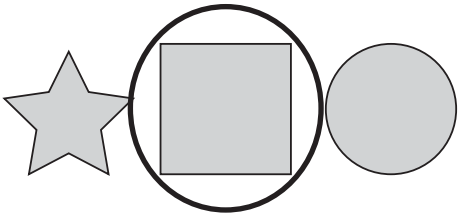
Skill 14.5 Comparing shapes based on their area.

- Trace, cut out and lay the shapes over each other, if possible.
- Use your best estimate.

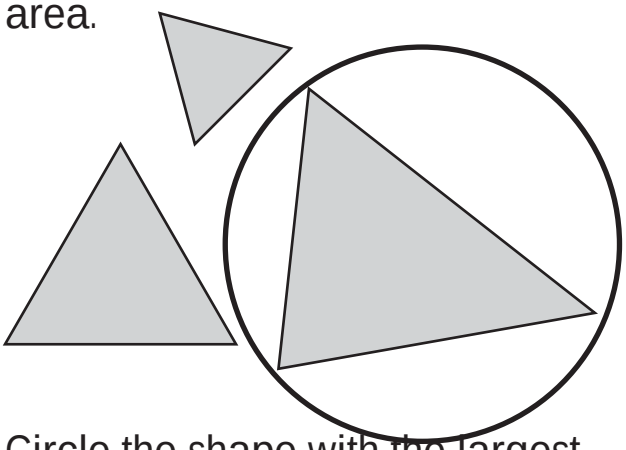
Q. Circle the shape with the largest area.



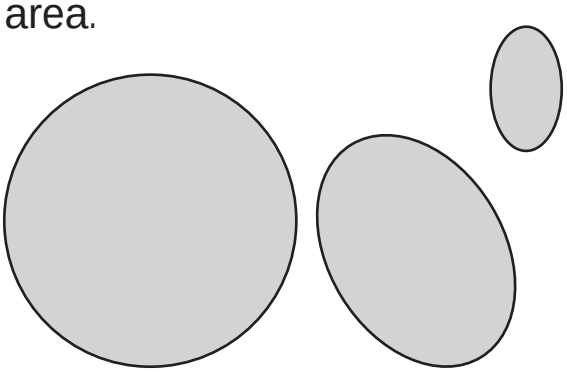
A.



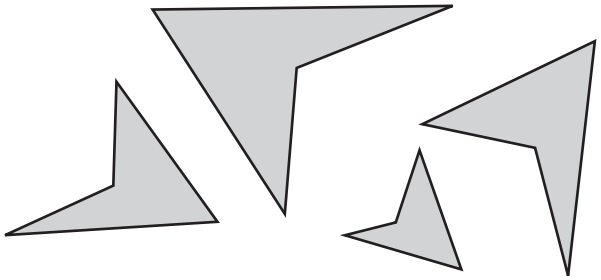
a) Circle the shape with the largest area.



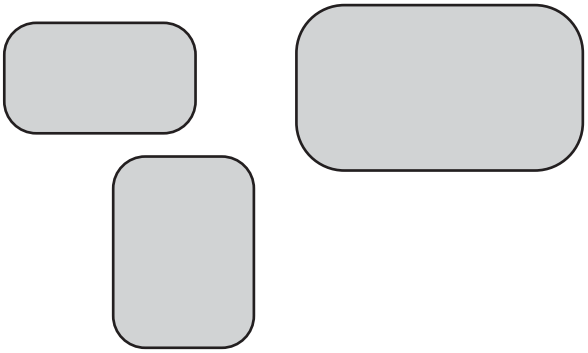
b) Circle the shape with the smallest area.



c) Circle the shape with the largest area.



d) Circle the shape with the smallest area.



e) Which has the largest area?

A) soccer field
B) netball court
C) cricket pitch

f) Which has the smallest area?

A) basketball court
B) boxing ring
C) golf course

g) Which has the largest area?

A) Scrabble board
B) playing card
C) Monopoly board

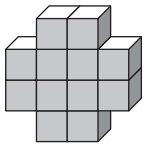
h) Which has the smallest area?

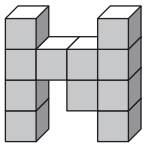
A) frisbee
B) coin
C) discus

Skill 14.6 Comparing shapes based on their volume.

- Count the number of cubes.
  Hint: The more cubes the greater the volume.
  The less cubes the lesser the volume.

Q. Which shape has the greatest volume?

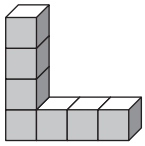
A) 

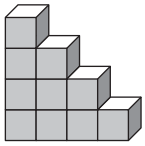
B) 

A. ***A***

A) 12 cubes
B) 11 cubes
So A has the greatest volume.

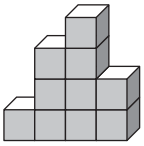
a) Which shape has the greatest volume?

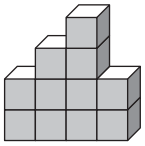
A) 

B) 

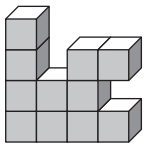
B

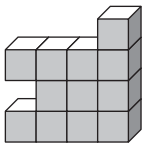
b) Which shape has the least volume?

A) 

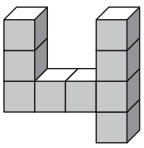
B) 

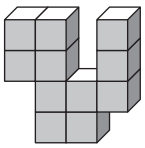
c) Which shape has the least volume?

A) 

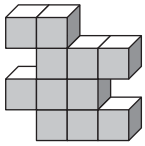
B) 

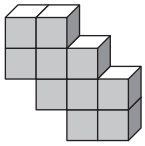
d) Which shape has the greatest volume?

A) 

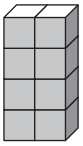
B) 

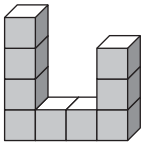
e) Which shape has the least volume?

A) 

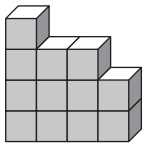
B) 

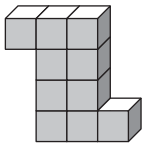
f) Which shape has the greatest volume?

A) 

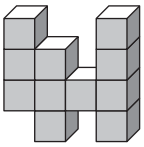
B) 

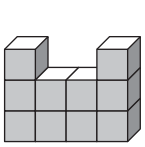
g) Which shape has the greatest volume?

A) 

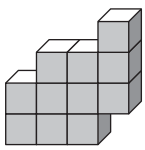
B) 

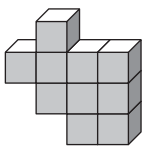
h) Which shape has the least volume?

A) 

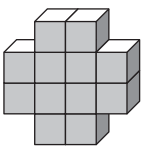
B) 

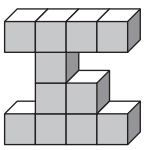
i) Which shape has the least volume?

A) 

B) 

j) Which shape has the greatest volume?

A) 

B) 

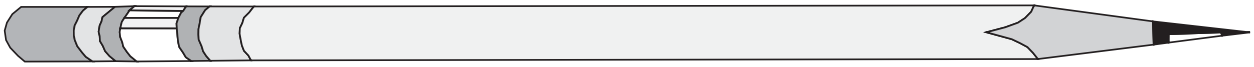
Skill 14.7 Selecting the appropriate units of measurement.

Choosing the type of unit
- Consider which units measure length, weight or capacity.

Choosing the size of unit
- Consider the amount of each unit and what is reasonable.

Q. Which unit measures the length of a pencil?

A) millimetre (mm)
B) metre (m)



A. ***A***

A millimetre looks like this: -
A metre is over 3 times the length of this page.
This is a possible pencil length.

So the length of a pencil is measured in millimetres not metres.

a) Which unit measures the volume of juice in a jug?

A) metre (m)
B) litre (L)
C) gram (g)

B

b) Which unit measures the length of a piece of wood?

A) litre (L)
B) kilogram (kg)
C) millimetre (mm)

c) Which unit measures the volume of water in a puddle?

A) kilometre (km)
B) kilogram (kg)
C) litre (L)

d) Which unit measures the weight of a new born chick?

A) kilogram (kg)
B) gram (g)

e) Which unit measures the length of a paper clip?

A) centimetre (cm)
B) metre (m)

f) Which unit measures the weight of a bag of cement?

A) kilogram (kg)
B) gram (g)

g) Which unit measures the width of a mobile phone?

A) kilometre (km)
B) centimetre (cm)

h) Which unit measures the volume of medicine in an eye dropper?

A) millilitre (mL)
B) litre (L)

i) Which unit is most commonly used to measure the length of a highway?

A) centimetre (cm)
B) kilometre (km)
C) metre (m)

j) Which unit is most commonly used to measure the capacity of a swimming pool?

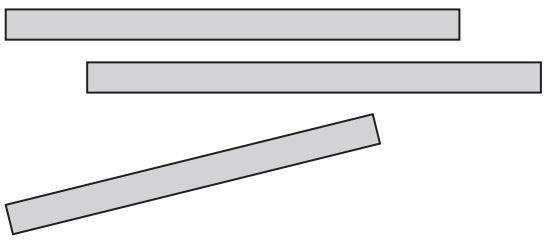
A) litre (L)
B) millilitre (mL)

Skill 14.8 Estimating and comparing lengths (1).

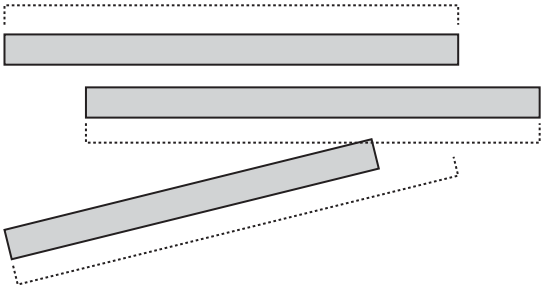
- Use a piece of string, paper or ruler to check the length of each object.

Q. Which 2 lengths are the same?

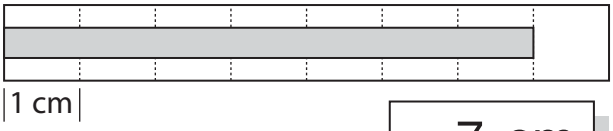
A)
B)
C)



A. ***A*** *&* ***B***



a) How long is the shaded bar?

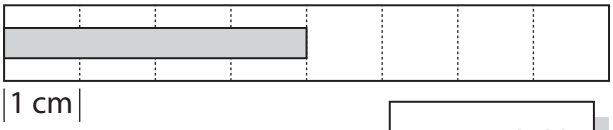


7 cm

b) How long is the shaded bar?

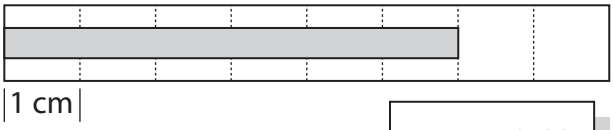
cm

c) How long is the shaded bar?



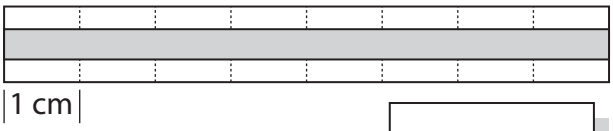
cm

d) How long is the shaded bar?



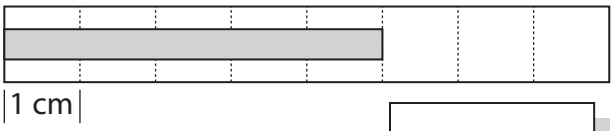
cm

e) How long is the shaded bar?



cm

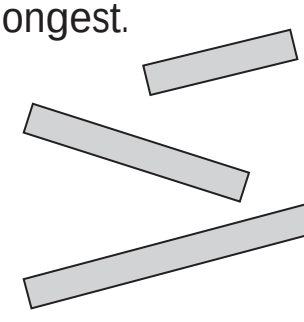
f) How long is the shaded bar?



cm

g) Order the lengths from shortest to longest.

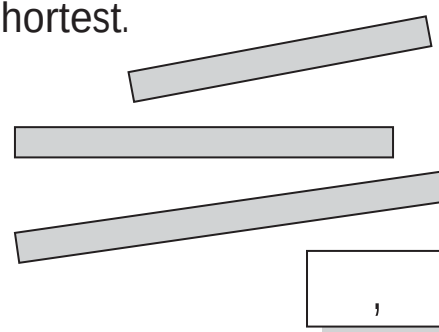
A)
B)
C)



, ,

h) Order the lengths from longest to shortest.

A)
B)
C)

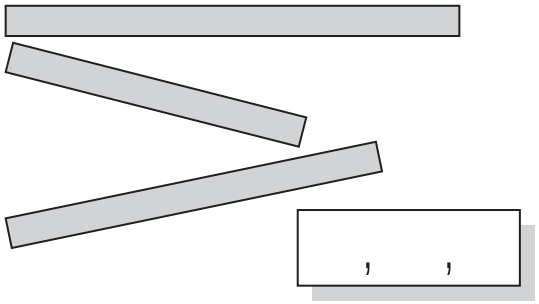


, ,

Skill 14.8 Estimating and comparing lengths (2).

i) Order the lengths from longest to shortest.

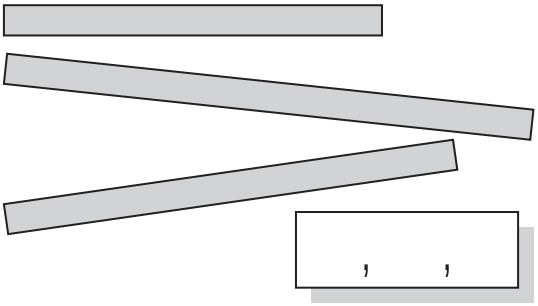
A)
B)
C)



, ,

j) Order the lengths from shortest to longest.

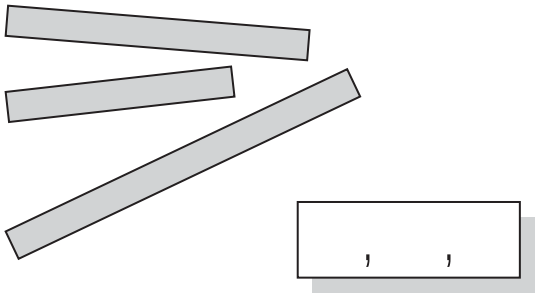
A)
B)
C)



, ,

k) Order the lengths from shortest to longest.

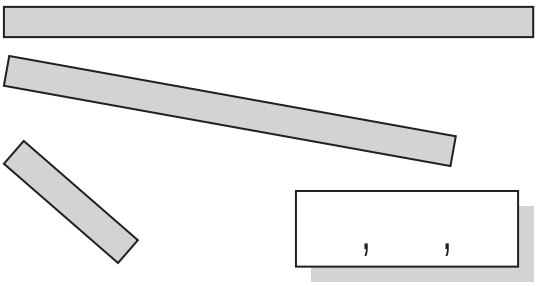
A)
B)
C)



, ,

l) Order the lengths from longest to shortest.

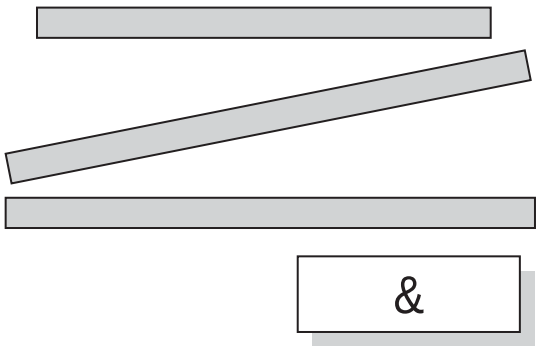
A)
B)
C)



, ,

m) Which 2 lengths are the same?

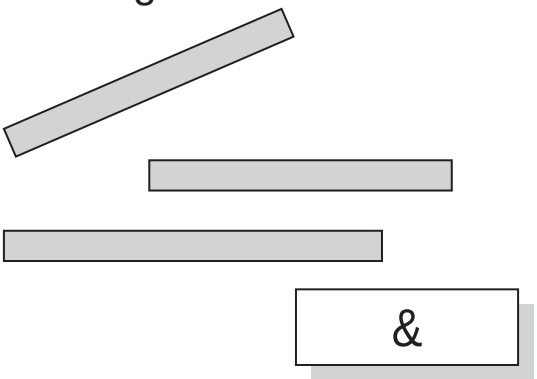
A)
B)
C)



&

n) Which 2 lengths are the same?

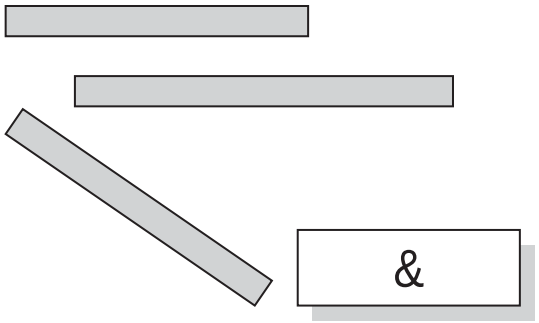
A)
B)
C)



&

o) Which 2 lengths are the same?

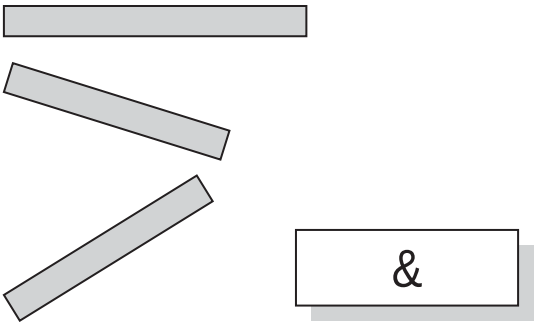
A)
B)
C)



&

p) Which 2 lengths are the same?

A)
B)
C)

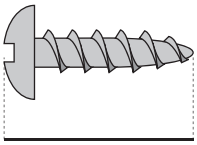


&

Skill 14.9 Measuring length by using a ruler.

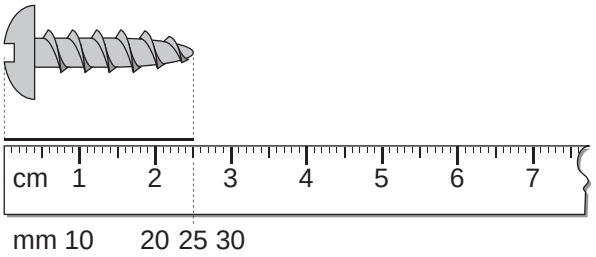
- Align the left edge of the ruler (zero) to the left edge of the object.
- Measure using the unit needed.
- Read in centimetres or use the fact 10 mm = 1 cm, to read in millimetres.

Q. Use a ruler to measure the length of the screw.

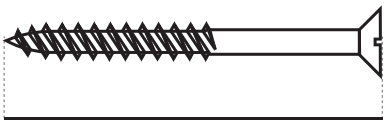


mm

A. ***25 mm***



a) Use a ruler to measure the length of the screw.

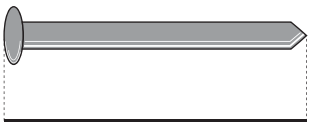


5 cm

b) Use a ruler to measure the length of the nail.

cm

c) Use a ruler to measure the length of the nail.



cm

d) Use a ruler to measure the length of the needle.

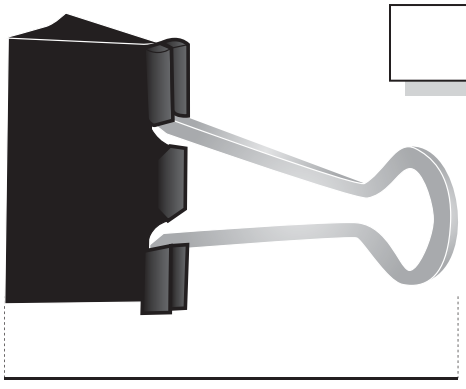
cm

e) Use a ruler to measure the length of the bullet.

cm

f) Use a ruler to measure the length of the clip.

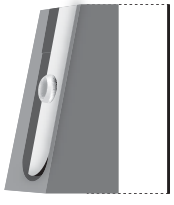
cm



g) Use a ruler to measure the length of the match.

mm

h) Use a ruler to measure the height of the sharpener.

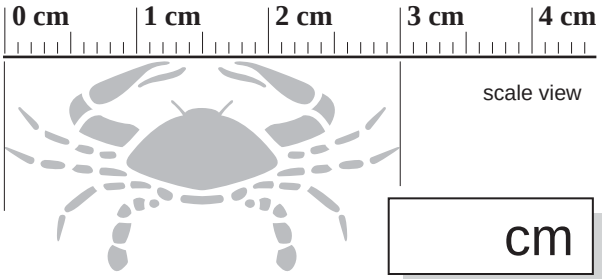


mm

Skill 14.10 Reading scales for length, weight and capacity (1).

- Read the number that matches the length, weight or capacity on the scale.

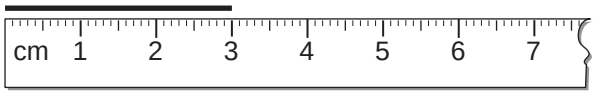
Q. Use the scale. How wide is the crab?



cm

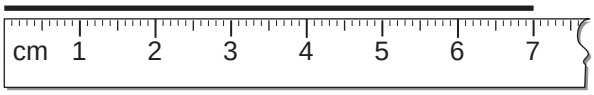
A. ***3 cm***

a) Use this ruler to measure the length of the line.



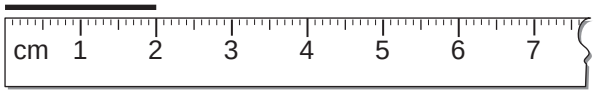
3 cm

b) Use this ruler to measure the length of the line.



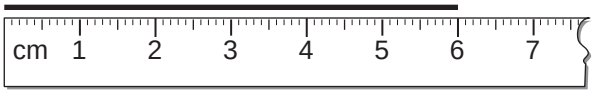
cm

c) Use this ruler to measure the length of the line.



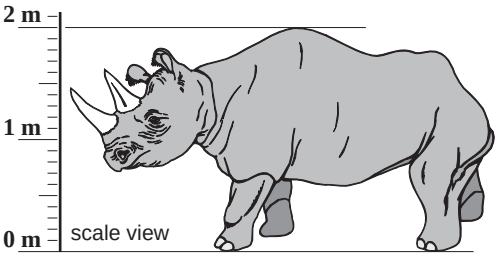
cm

d) Use this ruler to measure the length of the line.



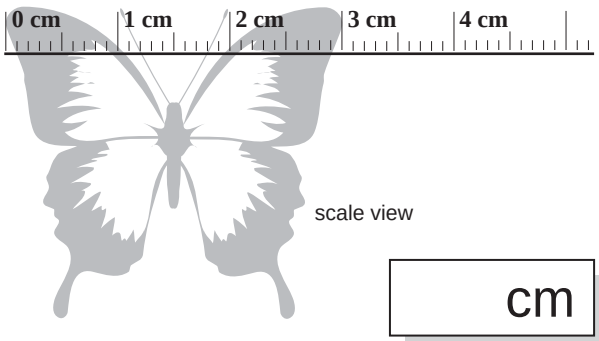
cm

e) Use the scale. How tall is the rhinoceros?



m

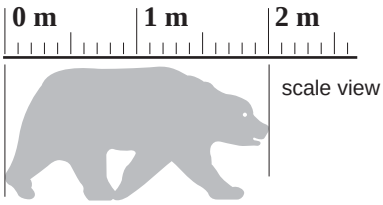
f) Use the scale. How wide is the butterfly?



cm

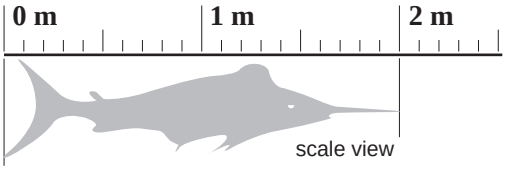
Skill 14.10 Reading scales for length, weight and capacity (2).

g) Use the scale. How long is the bear?



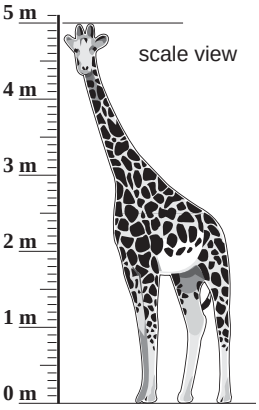
m

h) Use the scale. How long is the shark?



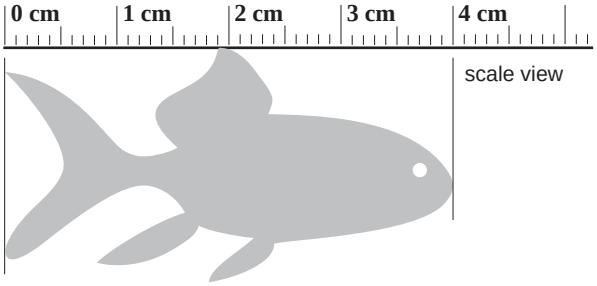
m

i) Use the scale. How tall is the giraffe?



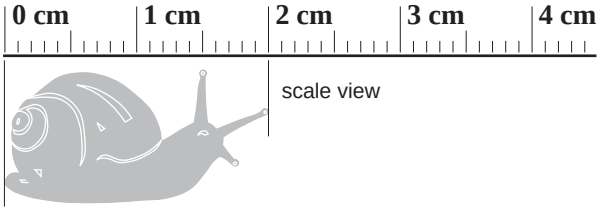
m

j) Use the scale. How long is the fish?



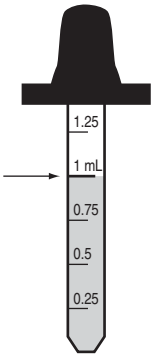
cm

k) Use the scale. How long is the snail?



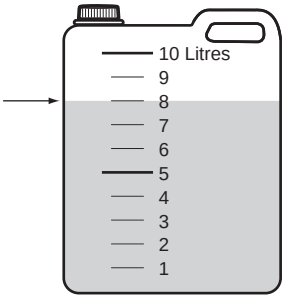
cm

l) What is the volume of the medicine?



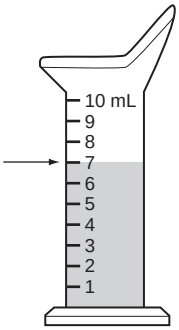
mL

m) What is the volume of the petrol?



L

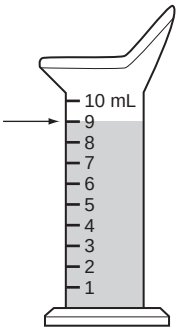
n) What is the volume of the medicine?



mL

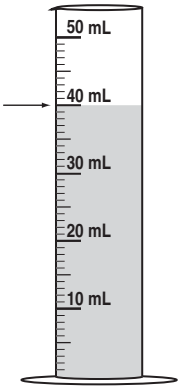
Skill 14.10 Reading scales for length, weight and capacity (3).

o) What is the volume of the medicine?



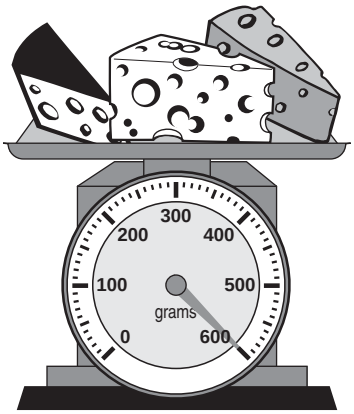
mL

p) What is the volume of the water?



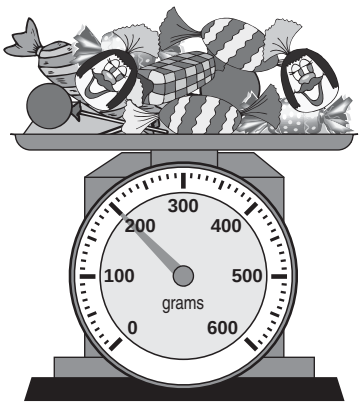
mL

q) What is the weight of the cheese?



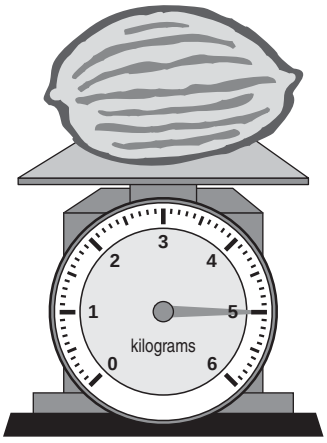
g

r) What is the weight of the lollies?



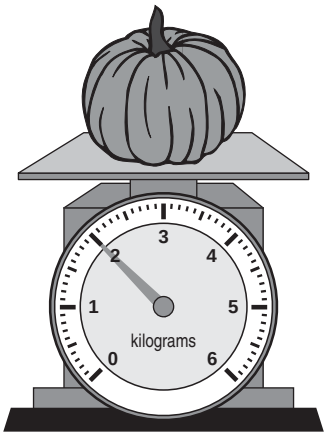
g

s) What is the weight of the watermelon?



kg

t) What is the weight of the pumpkin?



kg

15. [Time]

Skill 15.1 Naming and ordering days of the week.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Say the days of the week in order.

  Example: If today is Wednesday, consider the days yesterday and tomorrow. Yesterday was Tuesday, tomorrow will be Thursday.

Sunday
Monday
Tuesday ⟷ yesterday
Wednesday ⟷ today
Thursday ⟷ tomorrow
Friday
Saturday

Q. Which day comes after Thursday? **A.** ***Friday***

a) Which day comes before Wednesday?

Tuesday

b) Which day comes after Saturday?

c) Which day comes before Tuesday?

d) Which day comes after Wednesday?

e) Today is Tuesday. What day is tomorrow?

f) Yesterday was Tuesday. What day is today?

g) Tomorrow is Saturday. What day was it yesterday?

h) Which day is the last day of the weekend?

i) A week ago was Friday. What day is it today?

j) Tomorrow is Sunday. What day was it yesterday?

k) Today is Saturday. What day was it a week ago?

l) Yesterday was Sunday. What day is tomorrow?

Skill 15.2 Using calendars to identify a date or a day of the month.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

Q. Which day of the week is Christmas Day in 2021?

DECEMBER - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

A. ***Saturday***

DECEMBER - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Saturday

a) How many Tuesdays in September 2021?

SEPTEMBER - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

4

b) How many weekends in October 2021?

OCTOBER - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

c) Mark this birthday with a cross.

Barack Obama - 4th of August

AUGUST - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

d) How many week days in June 2021?

JUNE - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

e) Which day of the week is the first day of February 2021?

FEBRUARY - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

f) What is the date that Ramadan begins in 2021?

APRIL - 2021

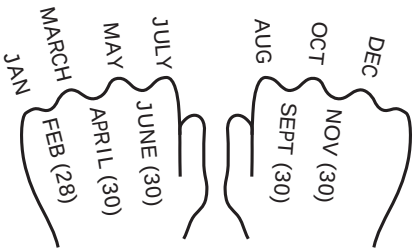
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13 Ramadan	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Skill 15.3 Naming and ordering months and seasons of the year.

- Say the months of the year in order.
- Say the seasons in order.
- Match the seasons to the months of the year.
- Learn the rhyme: *"30 days have September, April, June and November, all the rest have 31 except for February alone which has 28 days clear and 29 in each leap year."*

OR Use your knuckles!

Months with 31 days are on the knuckles.



Summer	January
	February
Autumn	March
	April
	May
Winter	June
	July
	August
Spring	September
	October
	November
Summer	December

Q. Which month comes before March?

A. ***February***

a) What is the 2nd month of the year? February

b) How many days in May?

c) Which month comes after August?

d) In Perth, which season is in March, April and May?

e) How many days in February, in a leap year?

f) How many days in April?

g) It is January in Sydney. Which season are we in?

h) In Melbourne, which season is in September, October and November?

i) My birthday is on the 22/11/1958. In which month was I born?

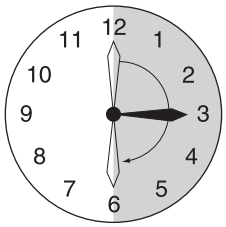
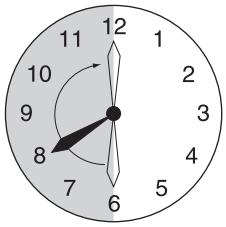
j) Which month comes before August?

k) How many days in October?

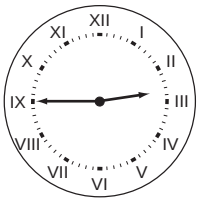
l) How many months in the year?

Skill 15.4 Telling the time by using 'past' and 'to' (1).

- Check the position of the big hand.
  Hint: Apart from pointing to 12 or 6 the big hand on a clock can point either right or left.

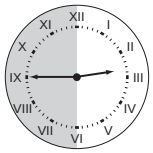
PAST - right between 12 (o'clock) and 6 (half past)	TO - left between 6 (half past) and 12 (o'clock)
 past	to 

Q. Use 'to' or 'past' to complete the time.



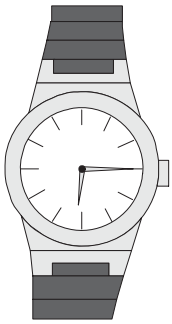
A quarter [ ] three.

A. ***to***

to 

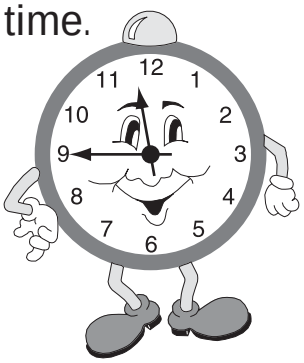
The big hand is on the IX (9). This is on the 'to' side of the clock.

a) Use 'to' or 'past' to complete the time.



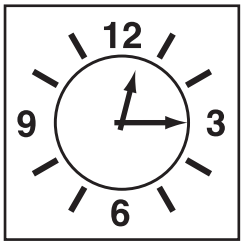
A quarter [past] six.

b) Use 'to' or 'past' to complete the time.



A quarter [ ] twelve.

c) Use 'to' or 'past' to complete the time.



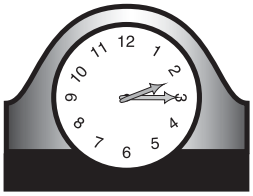
A quarter [ ] twelve.

d) Use 'to' or 'past' to complete the time.

A quarter [ ] ten.

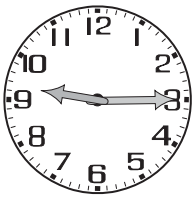
Skill 15.4 Telling the time by using 'past' and 'to' (2).

e) Use 'to' or 'past' to complete the time.



A quarter ☐ two.

f) Use 'to' or 'past' to complete the time.

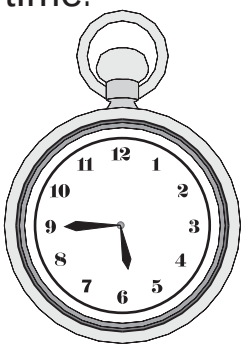


A quarter ☐ nine.

g) Use 'to' or 'past' to complete the time.

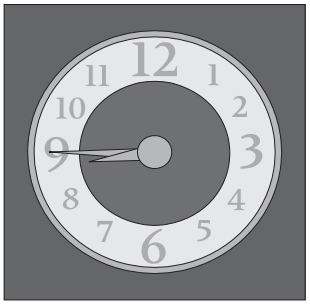
A quarter ☐ five.

h) Use 'to' or 'past' to complete the time.



A quarter ☐ six.

i) Use 'to' or 'past' to complete the time.



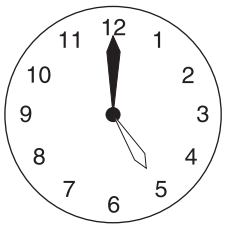
A quarter ☐ nine.

j) Use 'to' or 'past' to complete the time.

A quarter ☐ four.

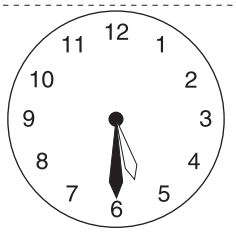
Skill 15.5 Showing the time on an analogue clock (1).

To show o'clock:
- Draw the big (minute) hand pointing to the **12**.
- Draw the little (hour) hand pointing to hour given.



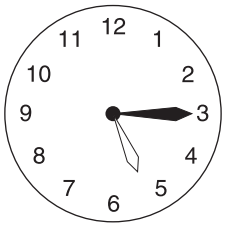
5 o'clock

To show half past:
- Draw the big hand pointing to the **6**.
- Draw the little hand pointing half way past the given hour and toward the next hour.



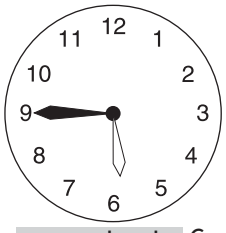
half past 5

To show a quarter past:
- Draw the big hand pointing to the **3**.
- Draw the little hand pointing one quarter of the way past the given hour and toward the next hour.



a quarter past 5

To show a quarter to:
- Draw the big hand pointing to the **9**.
- Draw the little hand pointing one quarter of the way backwards from the given hour and three quarters of the way from the hour before.



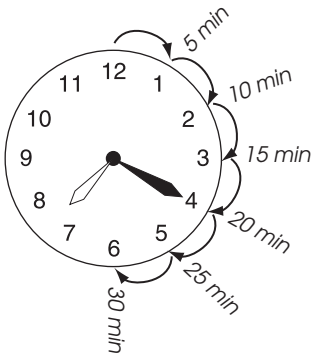
a quarter to 6

To show other times:
- Count by 5s starting from 12.
- Draw the big hand pointing to the number that tells the minutes.

Showing 'past'
- Draw the little hand pointing past the number that tells the hour.

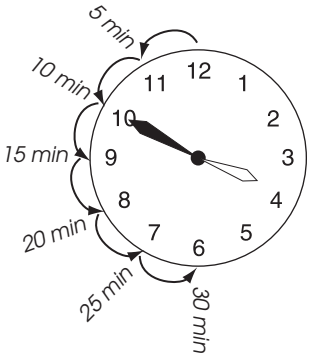
Showing 'to'
- Draw the little hand pointing before the number that tells the hour.

Count clockwise (↷) if the time is PAST



"Twenty minutes past seven"

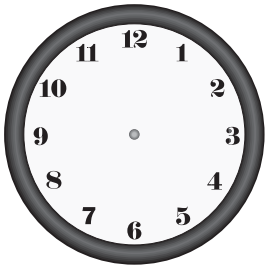
Count anticlockwise (↶) if the time is TO



"Ten minutes to four"

Skill 15.5 Showing the time on an analogue clock (2).

Q. Draw hands on the clock to show half past nine.

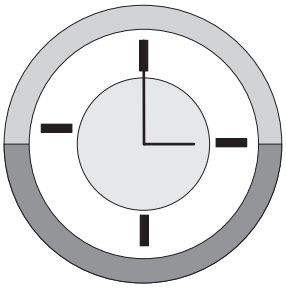


A.

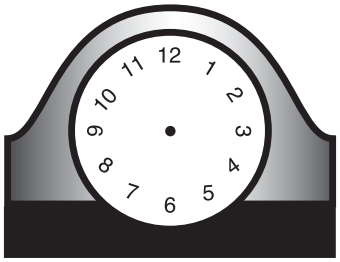
Half past means the big hand is on the 6.

Past nine means the little hand is past the nine and halfway to the 10.

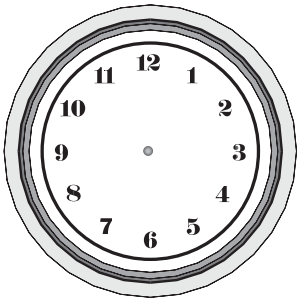
a) Draw hands on the clock to show three o'clock.



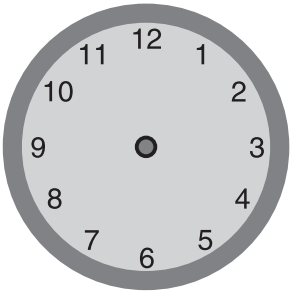
b) Draw hands on the clock to show half past two.



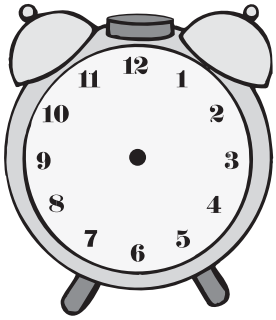
c) Draw hands on the clock to show a quarter past eight.



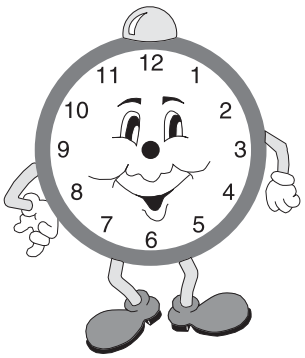
d) Draw hands on the clock to show a quarter to two.



e) Draw hands on the clock to show half past eleven.

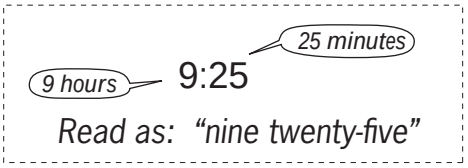


f) Draw hands on the clock to show twenty to seven.



Skill 15.6 Matching digital and analogue time (1).

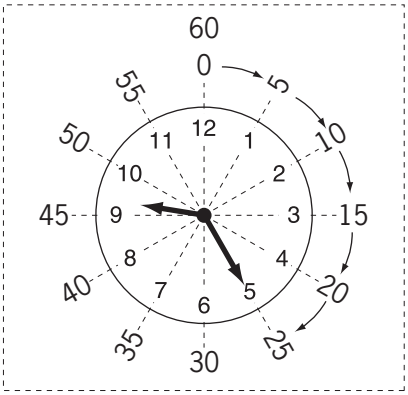
Digital time



Analogue to Digital time

- Draw the time on a clock face (if needed).
- Write the last hour that the little hand has past.
- Start counting the minutes by 5s from 12.
- Write the number of minutes that the big hand is on.

Example: Twenty-five past nine becomes " 9:25"



Digital to Analogue time

Minutes from 00 to 30:

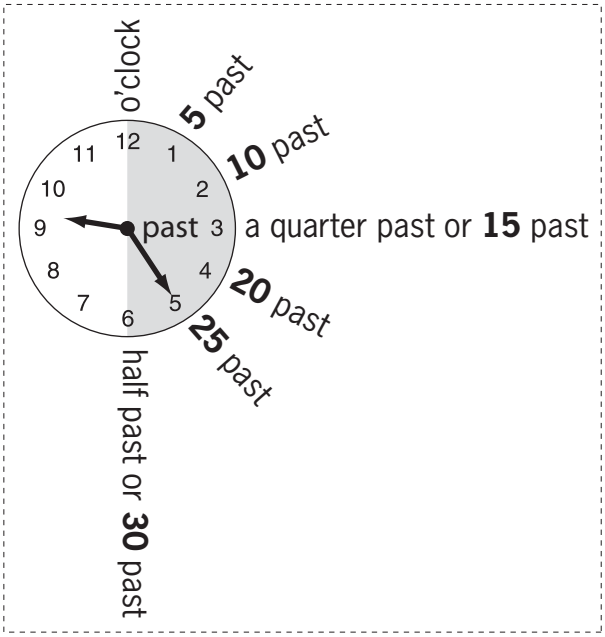
- Check the number of minutes on the digital clock.

00	o'clock
15	a quarter past
30	half past
Less than 30	just read the minutes

- Write the minutes past the hour.

Example: 9:25

Minutes 25
Hours 9
"Twenty-five minutes past nine"



Minutes from 30 to 60:

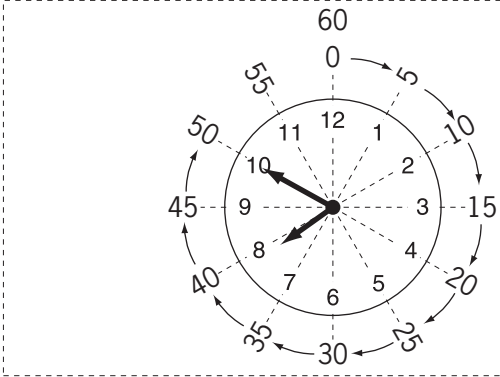
- Check the number of minutes on the digital clock.

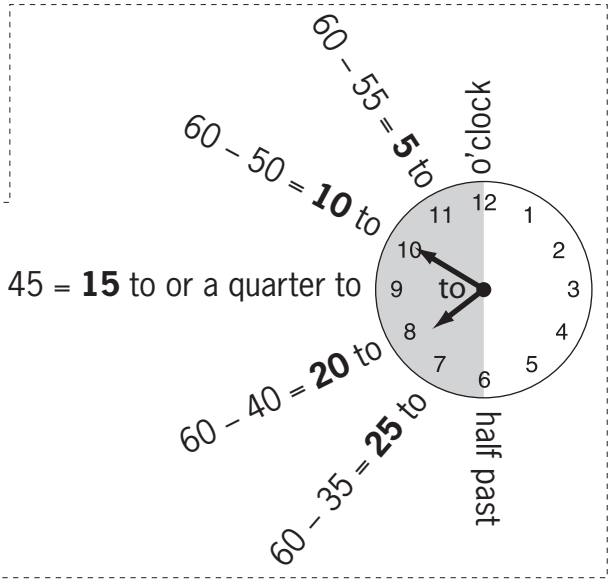
45	a quarter to
Greater than 30	subtract the number from 60

- Write the resulting minutes to the next hour.

Example: 7:50

Minutes 60 – 50 = 10
Hours The next hour is 8.
"Ten minutes to eight"





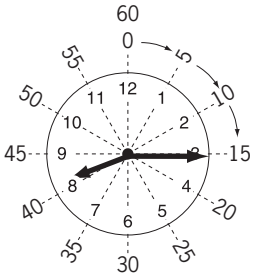
Skill 15.6 Matching digital and analogue time (2).

Q. Which time is a quarter past eight?

A) 8:15
B) 8:50
C) 8:30

A. ***A***

A quarter past means 15 minutes after 8.
So the time is 8:15



a) Which time is a quarter past two?

A) 2:15
B) 2:30
C) 2:00

A

b) Which time is half past ten?

A) 10:30
B) 10:45
C) 10:00

c) Which time is a quarter to four?

A) 4:45
B) 3:45
C) 5:45

d) Which time is a quarter to seven?

A) 4:45
B) 6:45
C) 5:45

e) Which time is half past three?

A) 3:15
B) 3:00
C) 3:30

f) Which time is a quarter to nine?

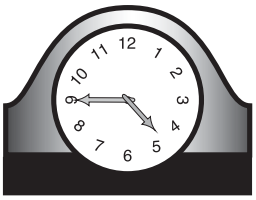
A) 8:45
B) 9:45
C) 9:15

g) Which time is shown on the clock?

A) 1:15
B) 3:00
C) 12:15

h) Which time is shown on the clock?

A) 9:25
B) 5:45
C) 4:45



i) Which time is shown on the clock?

A) 4:30
B) 5:45
C) 5:30

j) Which time is shown on the clock?

A) 11:35
B) 6:55
C) 11:25

Skill 15.6 Matching digital and analogue time (3).

k) Show five o'clock in the morning in digital time.

:

l) Show half past eleven in the morning in digital time.

:

m) Show eleven o'clock in the morning in digital time.

:

n) Show half past eight in the morning in digital time.

:

o) Show twenty minutes past ten in the morning in digital time.

:

p) Show a quarter past twelve in the afternoon in digital time.

:

q) Show twenty five to eleven in the morning in digital time.

:

r) Show five minutes past four in the morning in digital time.

:

s) 8:20 am means twenty past eight in the morning.

True or false?

t) 6:45 am means a quarter to six in the morning.

True or false?

u) 11:15 am means a quarter past one in the morning.

True or false?

v) 4:20 am means twenty to five in the morning.

True or false?

w) 7:25 am means twenty-five past seven in the morning.

True or false?

x) 7:55 am means five to eight in the morning.

True or false?

Skill 15.7 Expressing digital and analogue time in words (1).

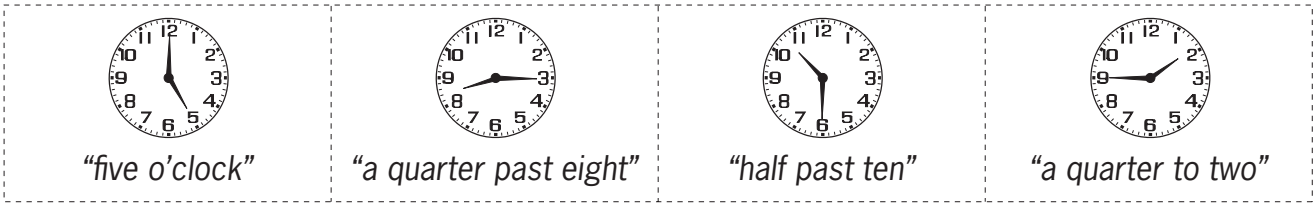
To write the digital time in words

- Read the time out loud.
- Write what you have said.

  Example: 12:15
  "Twelve fifteen"

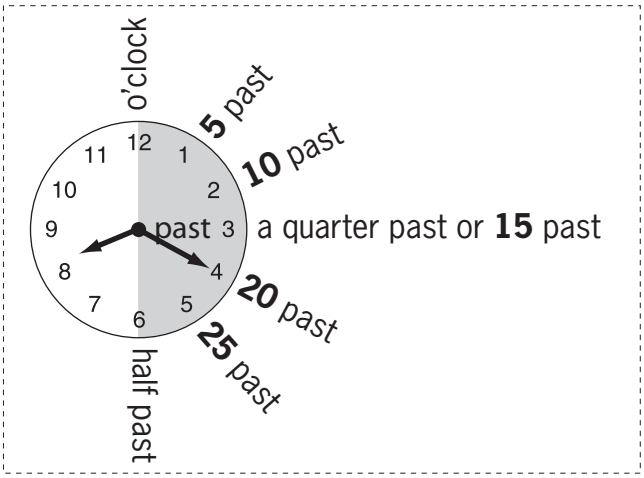
To write the analogue time in words

- Write:

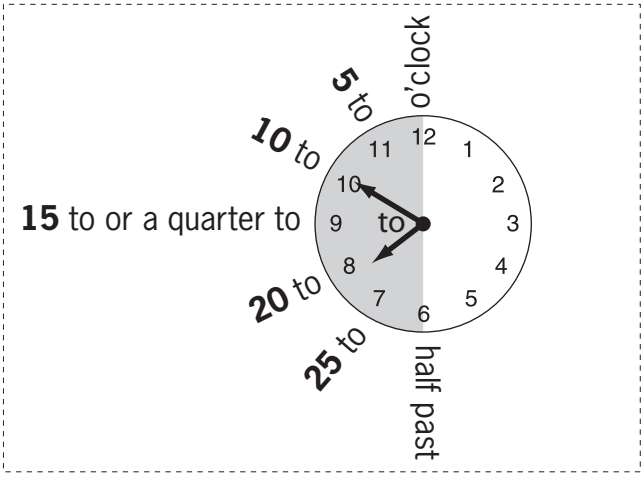


"five o'clock" | *"a quarter past eight"* | *"half past ten"* | *"a quarter to two"*

- Write **"past"** the hour if the big hand is in the right half of the clock.
  Example: *"twenty past eight"*.



- Write **"to"** the next hour if the big hand is in the left half of the clock.
  Example: *"ten to eight"*.
  Hints: According to the big hand a jump to the next number shows 5 more minutes. According to the little hand a jump to the next number shows 1 more hour.



Q. Write the time 7:30 in words.

A. ***seven thirty***
or
half past seven

a) Write the time 10:00 in words.

ten o'clock

b) Write the time 9:15 in words.

Skill 15.7 Expressing digital and analogue time in words (2).

c) Write the time 3:30 in words.

d) Write the time 1:25 in words.

e) Write the time 4:45 in words.

f) Write the time 6:45 in words.

g) Write the time shown in words.

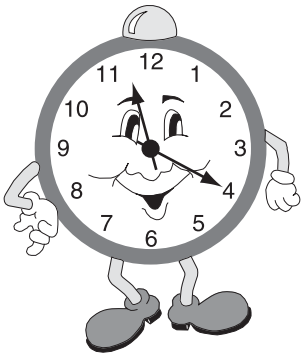
h) Write the time shown in words.

i) Write the time shown in words.

j) Write the time shown in words.

k) Write the time shown in words.

l) Write the time shown in words.



Skill 15.7 Expressing digital and analogue time in words (3).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

m) Write the time 7:20 in words.

n) Write the time 8:10 in words.

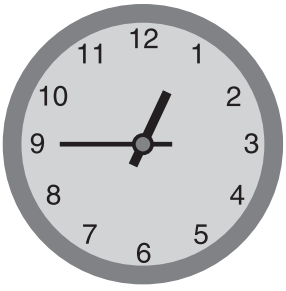
o) Write the time 5:40 in words.

p) Write the time 4:50 in words.

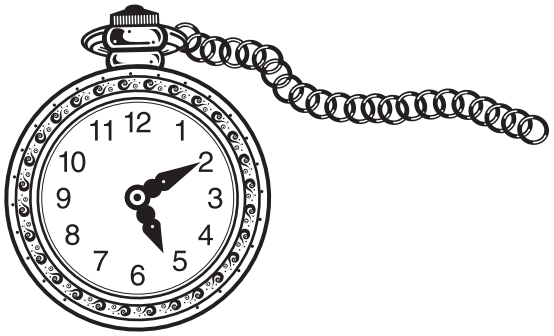
q) Write the time 11:55 in words.

r) Write the time 5:20 in words.

s) Write the time shown in words.



t) Write the time shown in words.



u) Write the time shown in words.

v) Write the time shown in words.

Skill 15.8 Reading timetables.

Q. Gus takes the 8:00 am bus to Canberra. What time does he get there?

greyhound Australia

Sydney	6:00 am	8:00 am	3:30 pm
Canberra	9:15 am	11:45 am	8:00 pm

A. ***11:45 am***

Find 8:00 am

Check across from Canberra

a) Charlie does jazz class. What time does he finish?

SYDANCEY COMPANY

Time	Style	
9:30 am - 11:00 am	Ballet	Beginner
11:00 am - 12:30 pm	Contemporary	Intermediate
6:30 pm - 8:00 pm	Stretch	Open
6:30 pm - 8:00 pm	Jazz	Beginner
6:30 pm - 8:00 pm	Lyrical	Intermediate
6:30 pm - 8:00 pm	Ballet	Intermediate

8:00 pm

b) How long should it take to travel between North Sydney and Wynyard stations?

NSW Transport CityRail

North Shore Line	
North Sydney	10:57 am
Milsons Point	10:59 am
Wynyard	11:03 am

minutes

c) Which show begins at 5:03 pm?

ABC

Sydney TV Guide

4:16 pm	Pat and Stan
4:28 pm	Oggy and the Cockroaches
4:40 pm	Pink Panther and Pals
5:03 pm	Bolts & Blip
5:30 pm	Black Hole High

d) How long does it take to get from Melbourne to Bordertown?

greyhound Australia

Melbourne	**8:15 pm**
Bordertown	2:15 am
Adelaide	**6:00 am**

hours

e) For how many days is Luna Park closed in February?

Luna Park

February - 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

Opening hours

- 7pm - 11pm
- 11am - 6pm
- 11am -11pm
- 11am - 8pm
- Closed

days

f) Which ferry number would take the shortest time?

IrishFerries.com

Dublin (Ireland) - Holyhead (Britain)

Ferry	Departure	Arrival
1	8:05 am	11:30 am
2	8:45 pm	10:45 pm
3	2:00 pm	4:30 pm
4	8:55 pm	12:20 am

Skill 15.9 Converting between units of time (1).

Hint: *Conversion Facts*

1 year = 12 months = 52 weeks = 365 days
1 fortnight = 2 weeks
1 week = 7 days
1 day = 24 hours
1 hour = 60 minutes
1 minute = 60 seconds

Q. Write in minutes.

120 seconds = minutes

A. *120 seconds =* ***2 minutes***

To convert seconds to minutes, make groups of 60.

a) Write in weeks.

7 days = 1 week

b) Write in seconds.

1 minute = seconds

c) Write in days.

4 weeks = days

d) Write in hours.

120 minutes = hours

e) Write in hours.

1 day = hours

f) Write in seconds.

3 minutes = seconds

g) Circle the longest time.

30 minutes
3 hours 300 seconds

h) Circle the shortest time.

3 hours
150 minutes 1 day

i) Circle the longest time.

1 year
300 days 60 weeks

j) Circle the shortest time.

30 hours
1 week 1 day

k) Circle the shortest time.

300 seconds
6 minutes 2 days

l) Circle the longest time.

3 weeks
14 days 1 month

Skill 15.9 Converting between units of time (2).

m) Write in seconds.

2 minutes = seconds

n) Write in seconds.

5 minutes = seconds

o) Write in minutes.

60 seconds = minute

p) Write in hours.

60 minutes = hour

q) Write in minutes.

1 hour = minutes

r) Write in minutes.

2 hours = minutes

s) Write in weeks.

14 days = weeks

t) Write in weeks.

28 days = weeks

u) Write in days.

1 week = days

v) Write in days.

24 hours = day

w) Write in hours.

1 day = hours

x) Write in days.

2 weeks = days

y) Circle the longest time.

2 days

40 hours 200 minutes

z) Circle the shortest time.

4 weeks

1 month 21 days

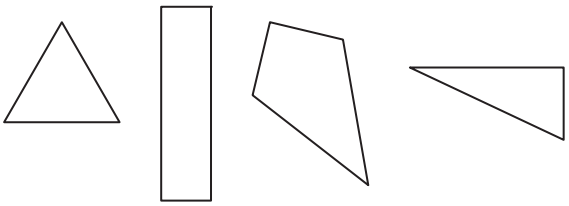
16. [Shapes]

Skill 16.1 Recognising properties of 2D shapes.

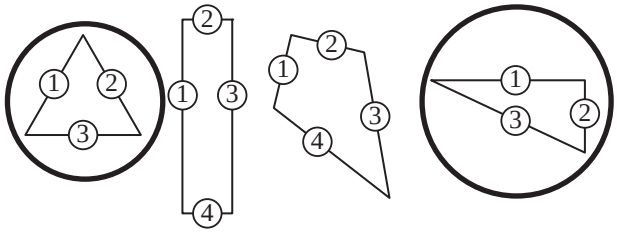
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Count and compare the number of sides.
- Check whether the shape has straight or curved sides.

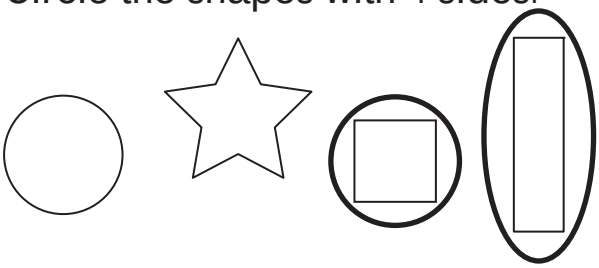
Q. Circle the shapes with 3 sides.



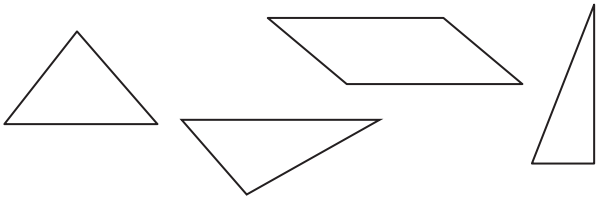
A.



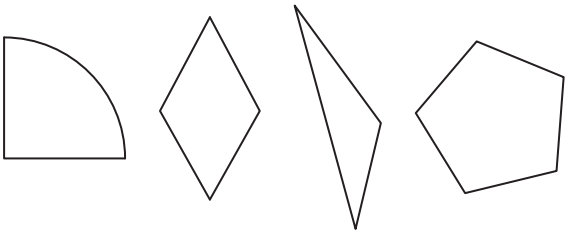
a) Circle the shapes with 4 sides.



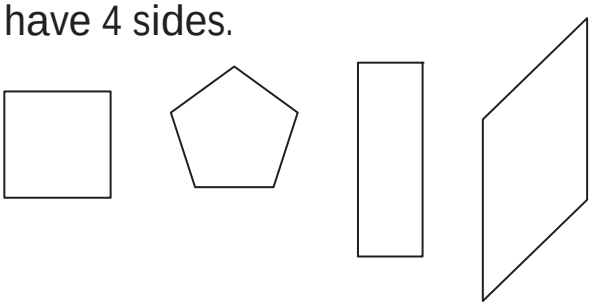
b) Circle the shape that does **not** have 3 sides.



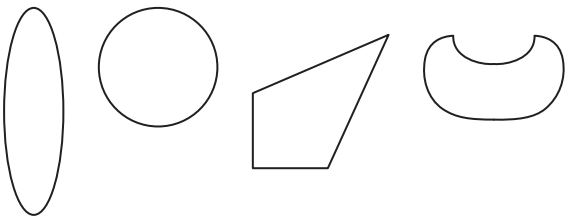
c) Circle the shape with curved sides.



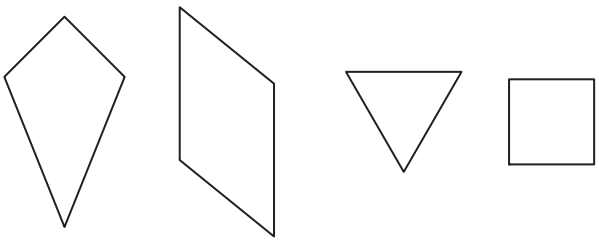
d) Circle the shape that does **not** have 4 sides.



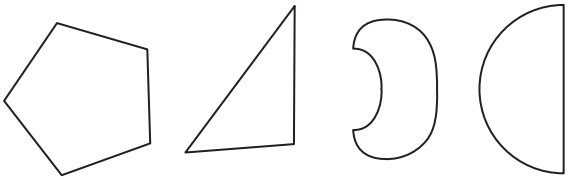
e) Circle the shape with straight sides.



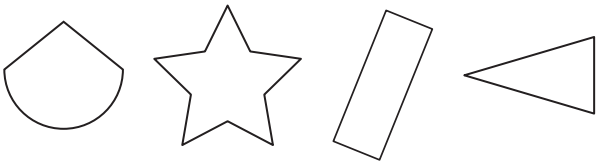
f) Circle the shape that does **not** belong.



g) Circle the shapes with no curved sides.



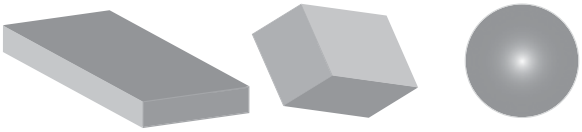
h) Circle the shape that does **not** belong.



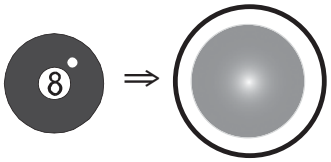
Skill 16.2 Recognising 3D shapes (1).

- Observe whether the 3D shape has a curved surface.
  If so the shape will be either a cone, cylinder or sphere.
- If all surfaces are flat, then decide if the shape is a pyramid (narrowing to a point) or a prism (rectangular side faces).

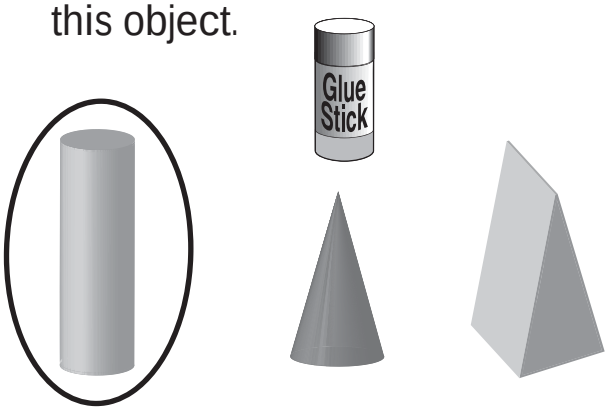
Q. Circle the shape which matches this object.



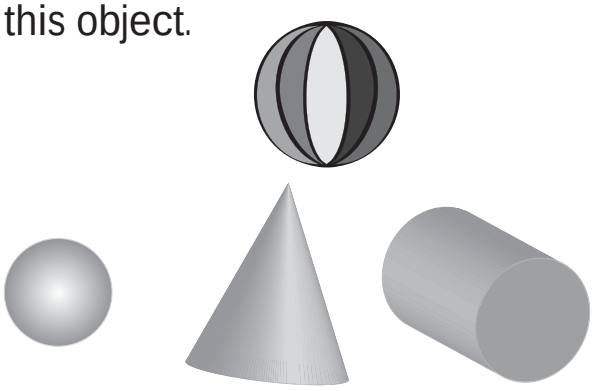
A.



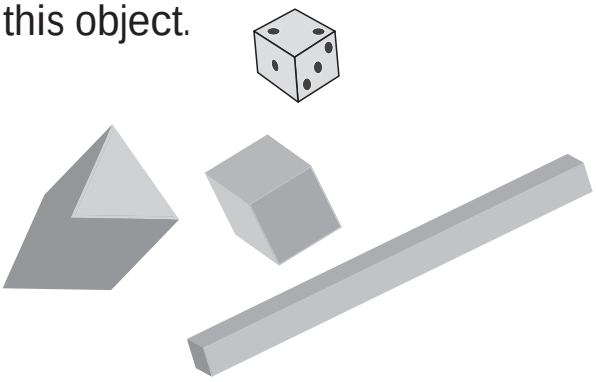
a) Circle the shape which matches this object.



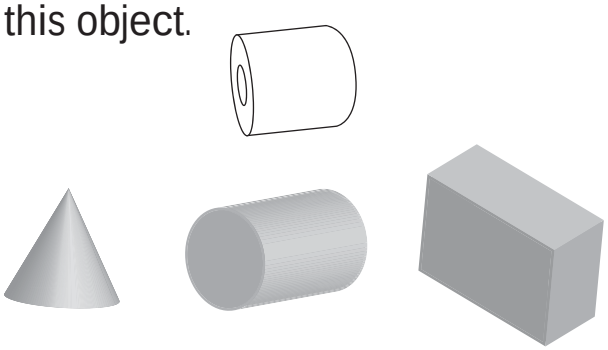
b) Circle the shape which matches this object.



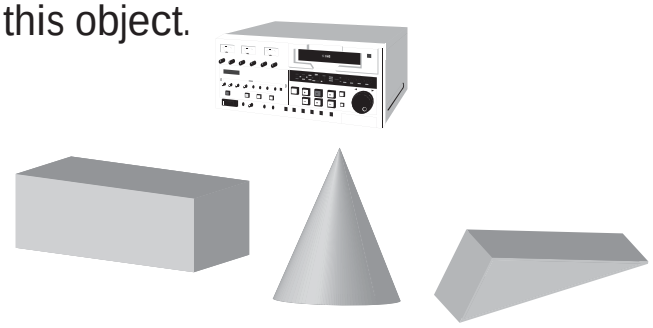
c) Circle the shape which matches this object.



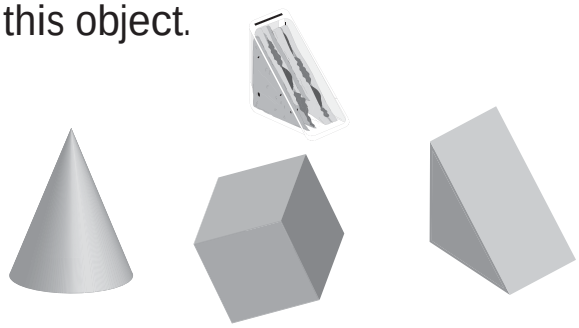
d) Circle the shape which matches this object.



e) Circle the shape which matches this object.

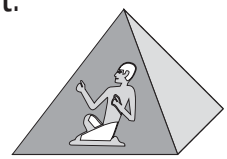


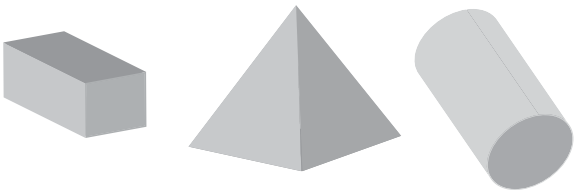
f) Circle the shape which matches this object.



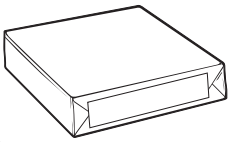
Skill 16.2 Recognising 3D shapes (2).

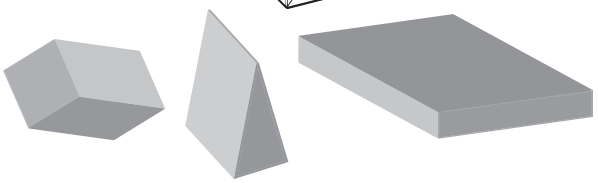
g) Circle the shape which matches this object.



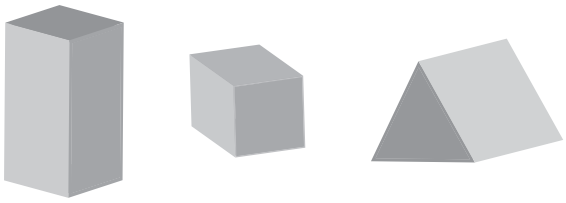


h) Circle the shape which matches this object.



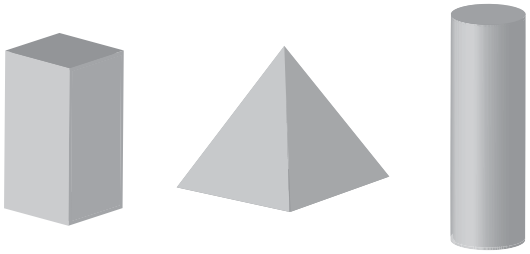


i) Circle the cube.

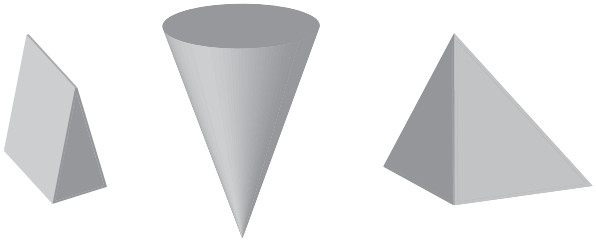


j) Circle the sphere.

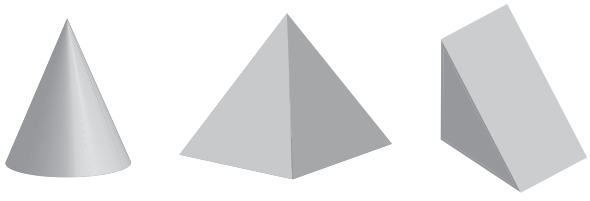
k) Circle the cylinder.



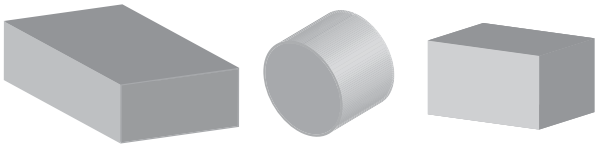
l) Circle the cone.



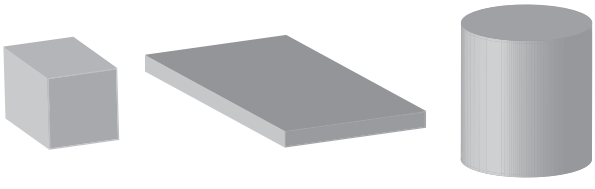
m) Circle the pyramid.



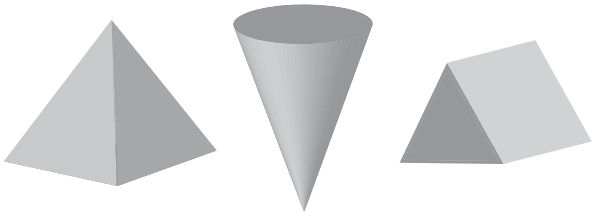
n) Circle the square prism.



o) Circle the rectangular prism.



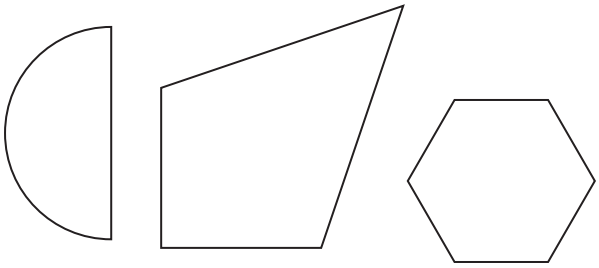
p) Circle the triangular prism.



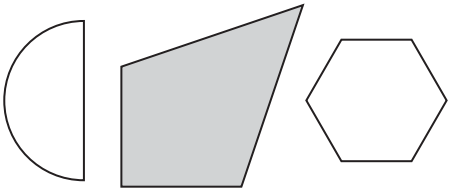
Skill 16.3 Recognising 2D shapes (1).

- See Glossary.

Q. Colour the kite.

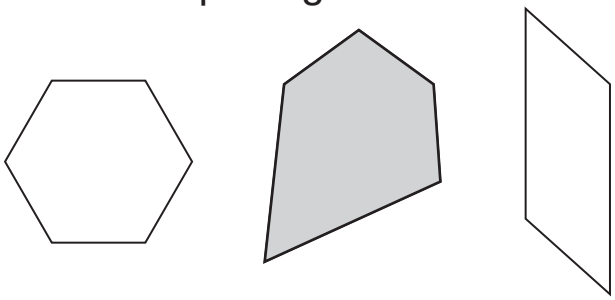


A.

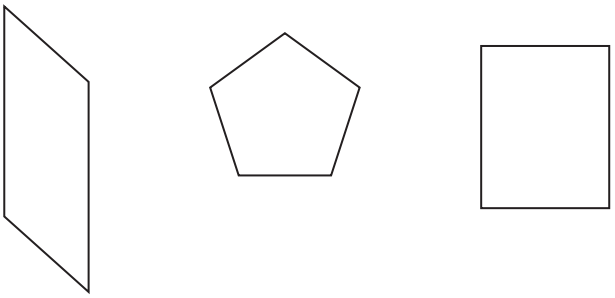


Shape 1 is a semicircle.
Shape 2 is a kite.
Shape 3 is a hexagon.

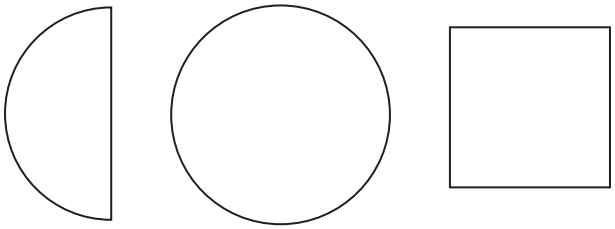
a) Colour the pentagon.



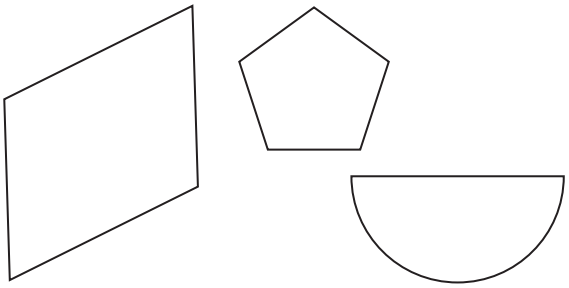
b) Colour the rectangle.



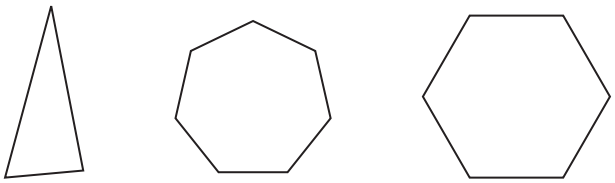
c) Colour the circle.



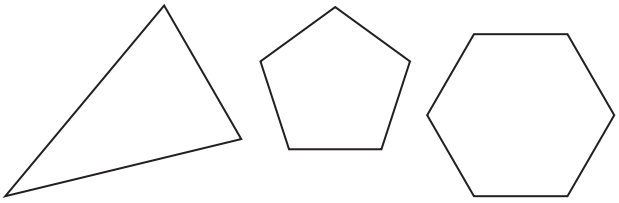
d) Colour the parallelogram.



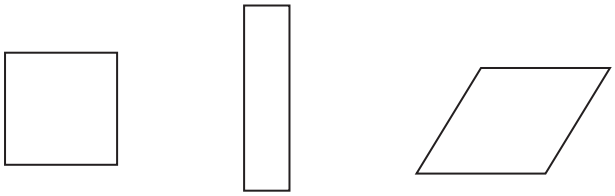
e) Colour the heptagon.



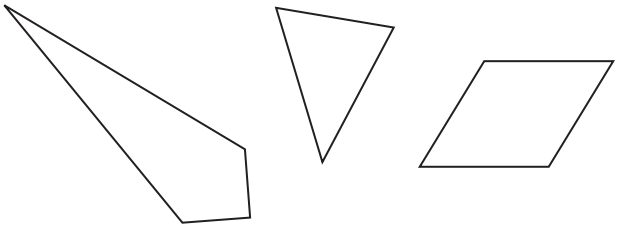
f) Colour the hexagon.



g) Colour the square.

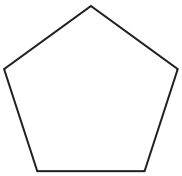


h) Colour the rhombus.

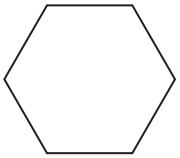


Skill 16.3 Recognising 2D shapes (2).

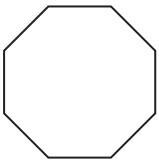
i) Name the 2-dimensional shape.



j) Name the 2-dimensional shape.

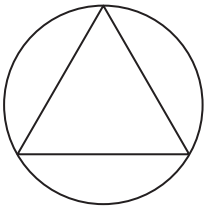


k) Name the 2-dimensional shape.



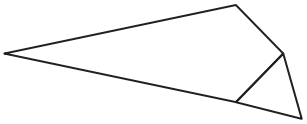
l) Name the 2-dimensional shape.

m) Name the two shapes used to make this figure.



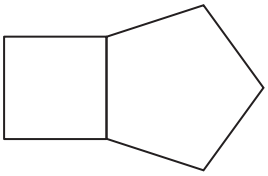
and

n) Name the two shapes used to make this figure.



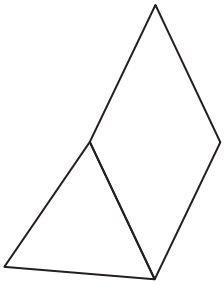
and

o) Name the two shapes used to make this figure.



and

p) Name the two shapes used to make this figure.

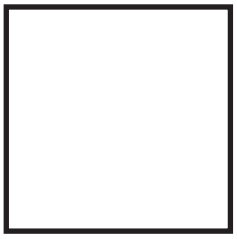


and

Skill 16.4 Drawing 2D shapes.

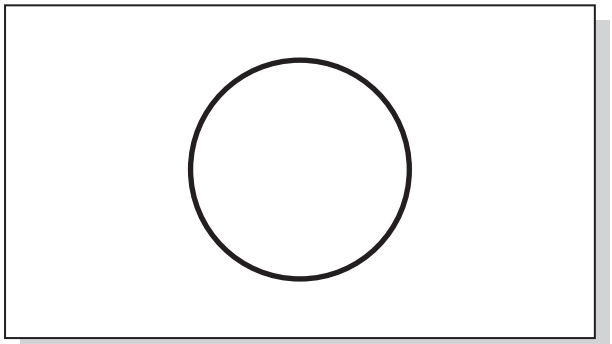
- See Glossary.

Q. Sketch a square.

A. 

Draw 4 equal lines, at right angles to each other.

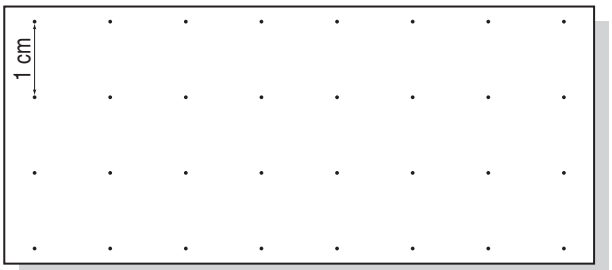
a) Sketch a circle.



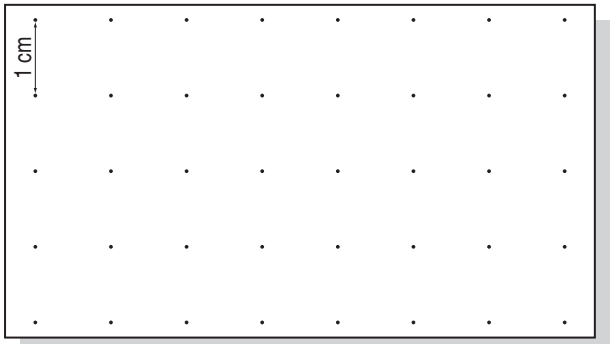
b) Sketch a heptagon.

c) Sketch an octagon.

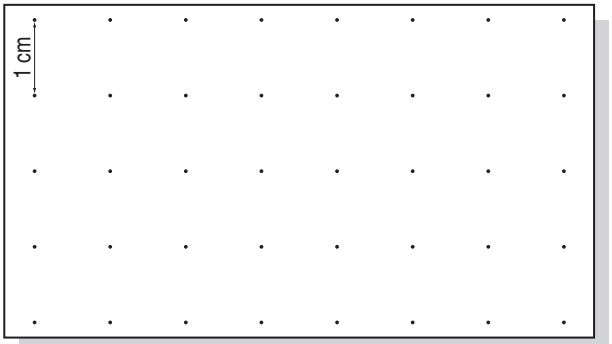
d) Draw a square of side length 1 cm on the grid.



e) Draw a rectangle with a side length of 3 cm and a width of 1 cm on the grid.

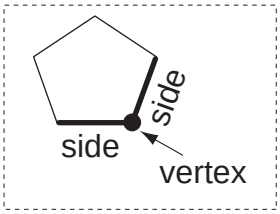


f) Draw a rectangle with a side length of 4 cm and a width of 3 cm on the grid.

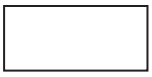


Skill 16.5 Counting vertices and sides of 2D shapes.

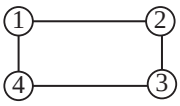
- See Glossary.



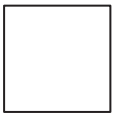
Q. How many vertices does a rectangle have?



A. ***4***



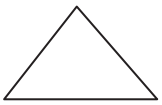
a) How many sides does a square have?



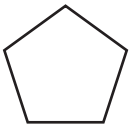
4

b) How many vertices does a parallelogram have?

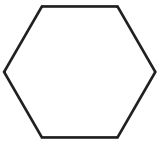
c) How many sides does a triangle have?



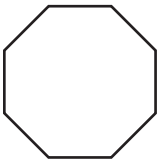
d) How many vertices does a pentagon have?



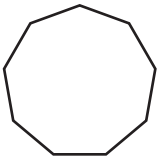
e) How many vertices does a hexagon have?



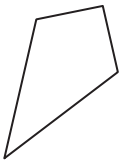
f) How many vertices does an octagon have?



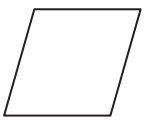
g) How many sides does a nonagon have?



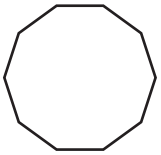
h) How many vertices does a kite have?



i) How many vertices does a rhombus have?

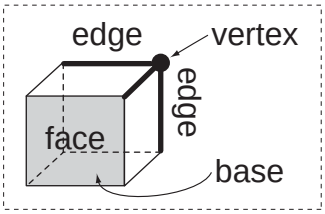


j) How many sides does a decagon have?

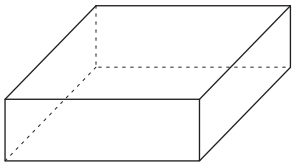


Skill 16.6 Counting vertices, edges and faces of 3D shapes.

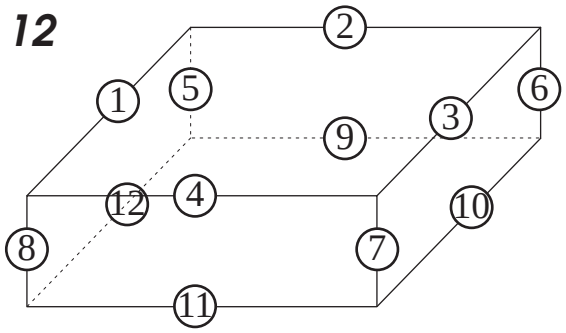
- See Glossary.



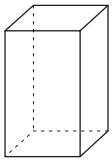
Q. How many edges does a rectangular prism have?



A. ***12***

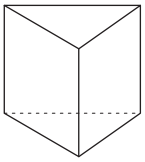


a) How many edges does a square prism have?

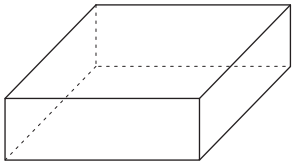


12

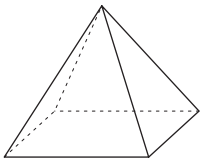
b) How many vertices does a triangular prism have?



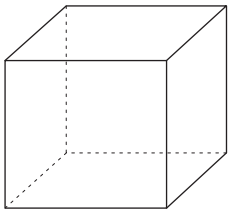
c) How many faces does a rectangular prism have?



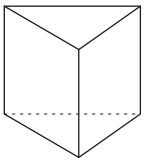
d) How many vertices does a square pyramid have?



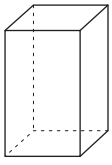
e) How many faces does a cube have?



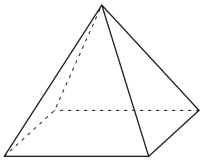
f) What shape is the base of a triangular prism?



g) What shape is the base of a square prism?



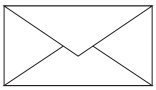
h) What shape is any lateral side of a pyramid?



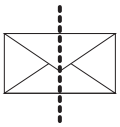
Skill 16.7 Drawing lines of symmetry in 2D shapes.

- Draw a line, or lines, through the middle of the shape.
- Check that, if you put a mirror on that line, what you see in the mirror is identical to what is behind the mirror.

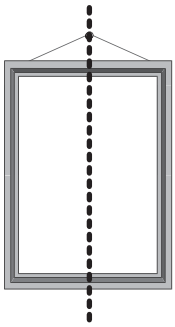
Q. Draw the line of symmetry.



A.  Incorrect. Top half is not identical to the bottom half.

 Correct. Both halves are identical.

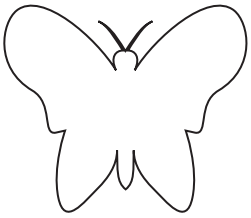
a) Draw the line of symmetry.



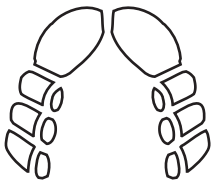
b) Draw the line of symmetry.

c) Draw the line of symmetry.

d) Draw the line of symmetry.

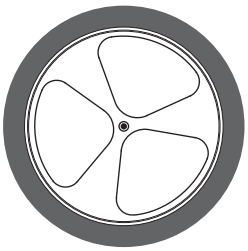


e) Draw the line of symmetry.



f) Draw two lines of symmetry.

g) Draw the lines of symmetry.



h) Draw the lines of symmetry.

Skill 16.8 Comparing the size of two angles.

- Compare the amount of turn needed to get from one straight line to another.
  Hint: The larger the amount of turn between the 2 straight lines, the larger the angle.
  The smaller the amount of turn between the 2 straight lines, the smaller the angle.

Q. The legs of which gymnast show the least angle?

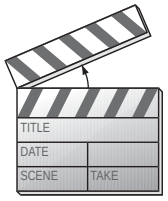
A) 

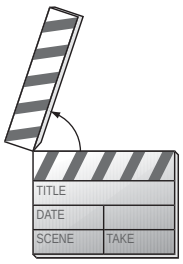
B) 

A. ***A***

The boy's legs show less than a half turn.
The girl's legs show a full half turn.

a) The arms of which clapboard show the greatest angle?

A) 

B) 

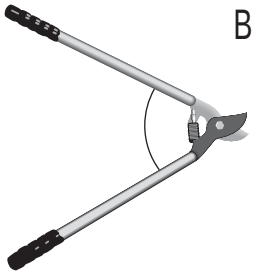
B

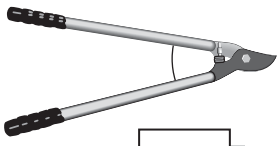
b) The hands on which clock show the least angle?

A) 

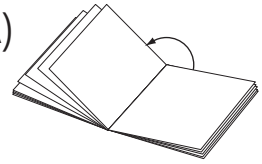
B) 

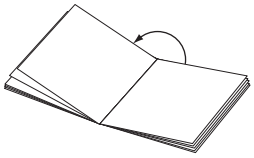
c) The arms of which cutter show the greatest angle?

A) 

B) 

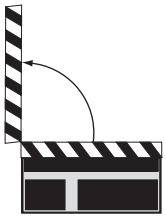
d) The open pages of which book show the least angle?

A) 

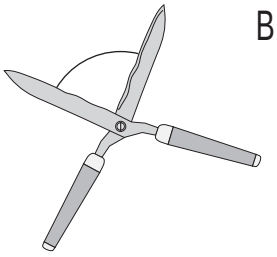
B) 

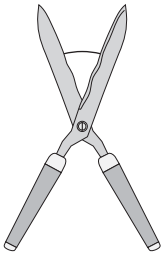
e) The arms of which clapboard are open closest to a right angle?

A) 

B) 

f) The blades of which shears are open closest to a right angle?

A) 

B) 

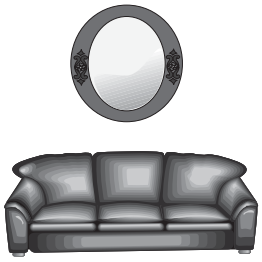
17. [Location]

Skill 17.1 Naming the position of objects (under, outside, next to, etc) (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- See Glossary.

Q. Is the mirror 'above' or 'below' the couch?



A. ***above***

The mirror is over the top of the couch.

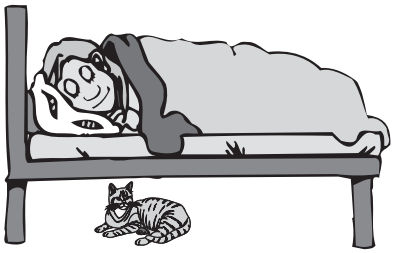
a) Is the foot stool 'in front of' or 'behind' the chair?

in front of

b) Is the bear 'inside' or 'outside' the box?

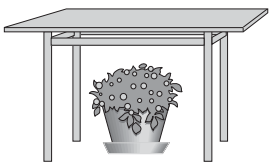
c) Is the tight-rope walker 'on' or 'under' the rope?

d) Is the cat 'on' or 'under' the bed?



e) Is the man 'in front of' or 'behind' the piano?

f) Is the pot plant 'above' or 'below' the table?

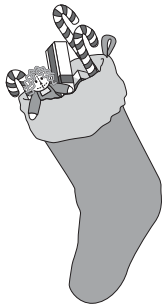


Skill 17.1 Naming the position of objects (under, outside, next to, etc) (2).

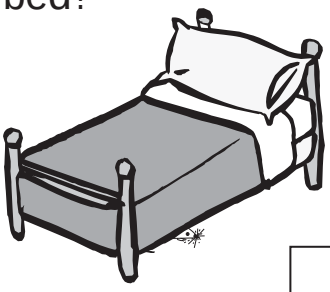
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

g) Is the rabbit ‘on’ or ‘under’ the present?

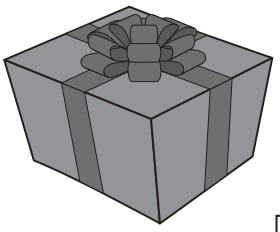
h) Are the gifts ‘inside’ or ‘outside’ the stocking?



i) Is the mouse ‘on’ or ‘under’ the bed?



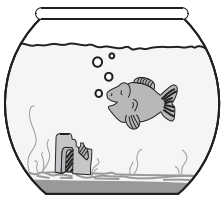
j) Is the ribbon on the ‘inside’ or the ‘outside’ of the gift?



k) Is the dog ‘in front of’ or ‘behind’ his kennel?

l) Is the hurdler ‘above’ or ‘below’ the hurdle?

m) Is the fish ‘inside’ or ‘outside’ the fish bowl?

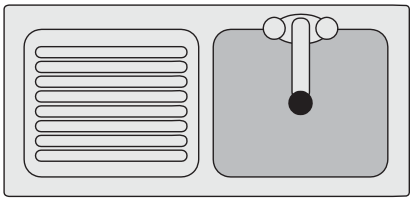


n) Is the elephant ‘on’ or ‘under’ the tub?

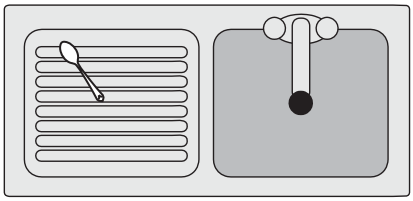
Skill 17.2 Drawing objects in the positions under, outside, next to, etc.

- See Glossary.

Q. Draw a spoon outside the sink.

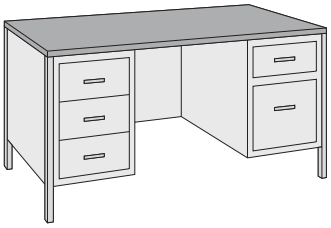


A.



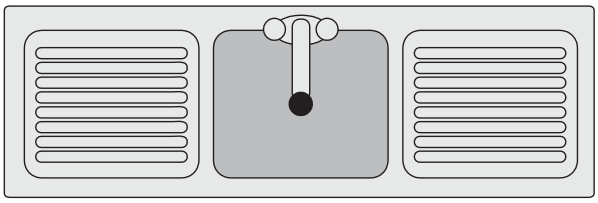
a) Draw a paper clip next to this paper clip.

b) Draw a lamp on the desk.

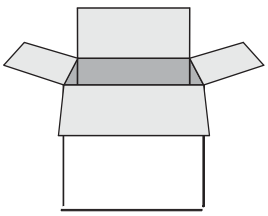


c) Draw a parachute above the boy.

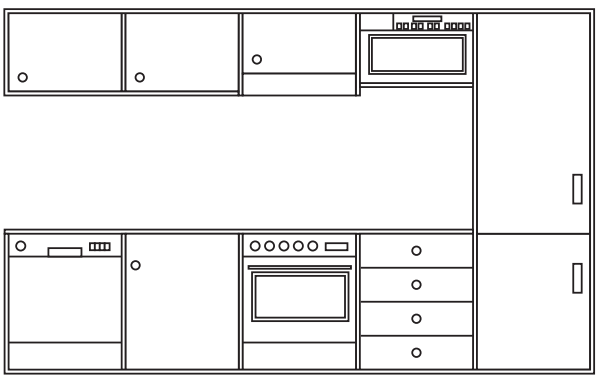
d) Draw a dinner plate inside the sink.



e) Draw a kitten inside the box.



f) Draw a vase of flowers between the dishwasher and the stove.



Skill 17.3 Naming and drawing objects in the positions left, right and middle (1).

- See Glossary.

Q. Looking at the faces, who is to the left of Fidel Castro?


Adolf Hitler


Fidel Castro


Yasser Arafat

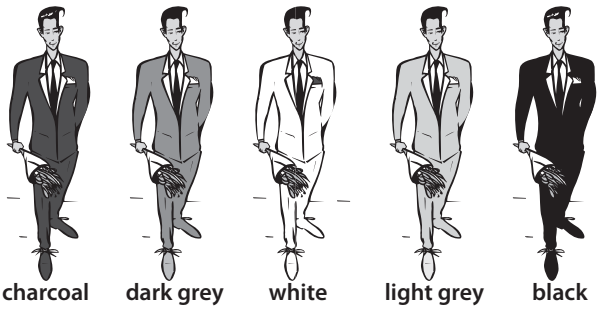
A. ***Adolf Hitler***


Adolf Hitler
left


Fidel Castro
middle

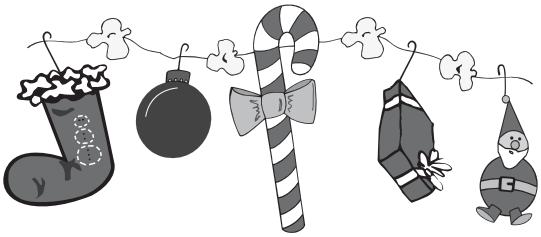

Yasser Arafat
right

a) What colour suit is in the middle?


charcoal dark grey white light grey black

white

b) Looking at the string, which decoration is to the right of the Christmas bauble?



c) Looking at the faces, who is to the right of Stan Laurel?


Charlie Chaplin Stan Laurel Oliver Hardy

d) Who is in the middle?


Elvis Presley Michael Jackson John Lennon

e) Looking at the men, who is to the right of Herb Elliott?


Herb Elliott John Landy Ron Clarke

f) Which plant is in the middle?

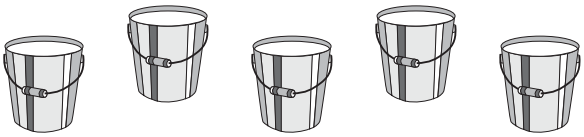
Skill 17.3 Naming and drawing objects in the positions left, right and middle (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

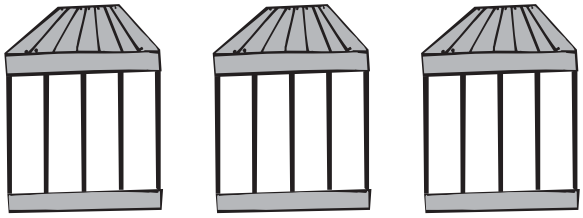
g) Looking at the pictures, who is to the left of Horace?

h) Looking at the tray, draw another muffin to the right of the existing muffin.

i) Looking at the buckets, draw a mop handle in the bucket on the right.

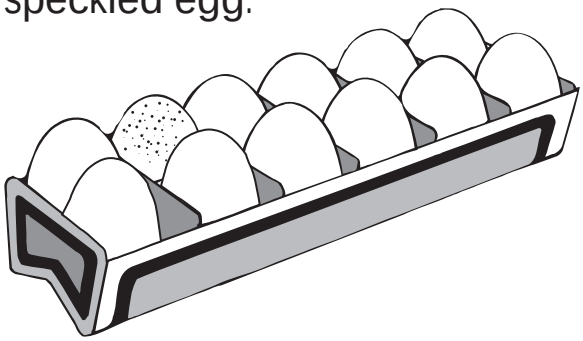


j) Draw a lion in the middle cage.

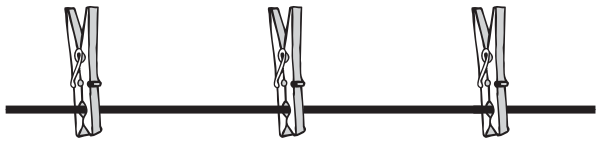


k) Looking at the trollies, draw a bag of groceries in the trolley on the right.

l) Looking at the eggs, draw a hat on the egg to the left of the speckled egg.



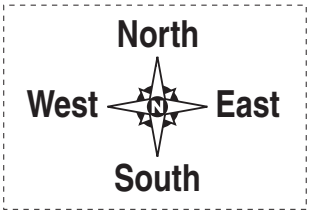
m) Looking at the clothes line, draw a hankerchief hanging from the peg on the right.



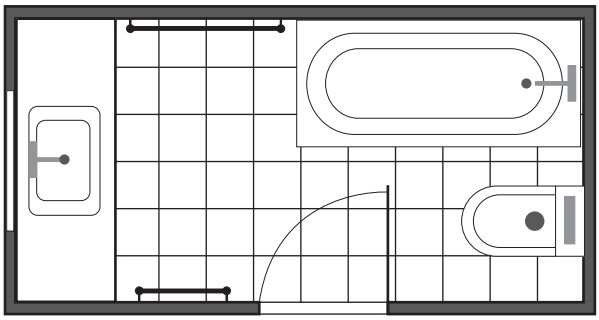
n) Looking at the snowmen, draw a hat on the snowman on the left.

Skill 17.4 Identifying the location of objects on a map or a plan (1).

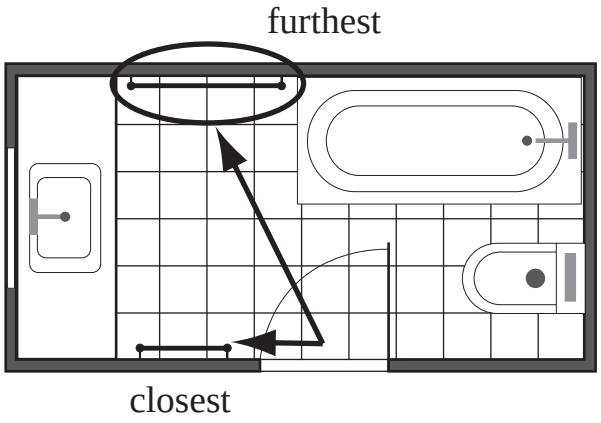
- See Glossary.



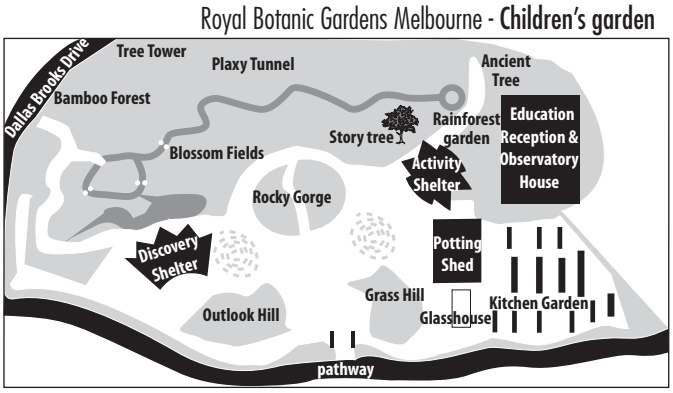
Q. Circle the towel rail which is furthest from the door.



A.

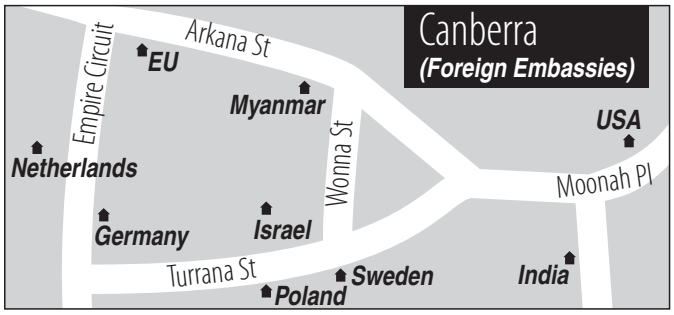


a) Which building is closest to the Story tree?

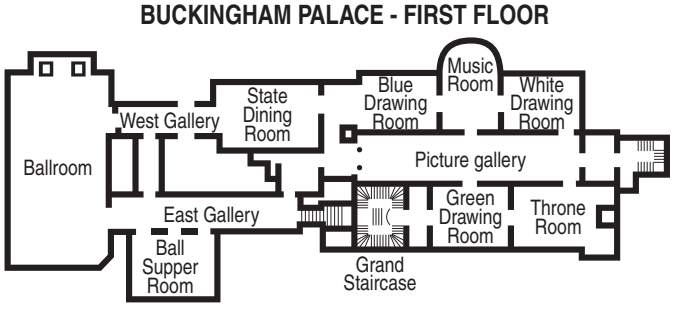


Activity Shelter

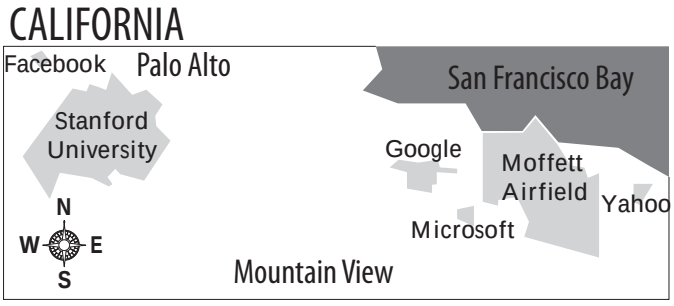
b) Which embassy is at the corner of Arkana St and Wonna St?



c) Which room is furthest from the Throne Room?



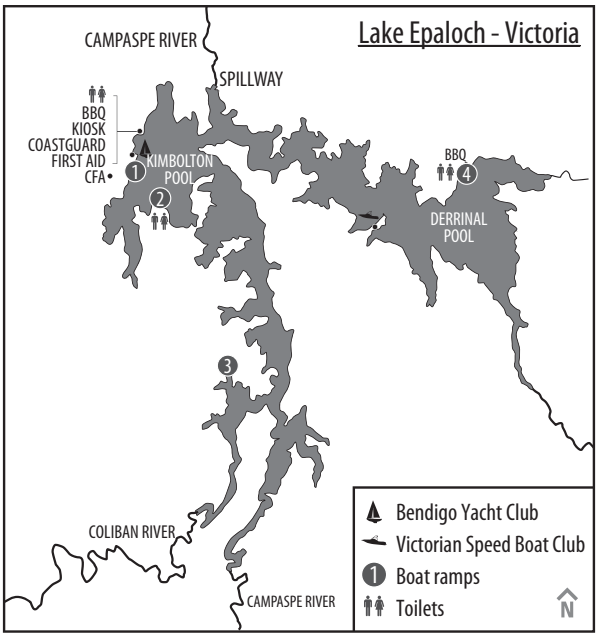
d) Which computer company is to the east of Moffett Airfield?



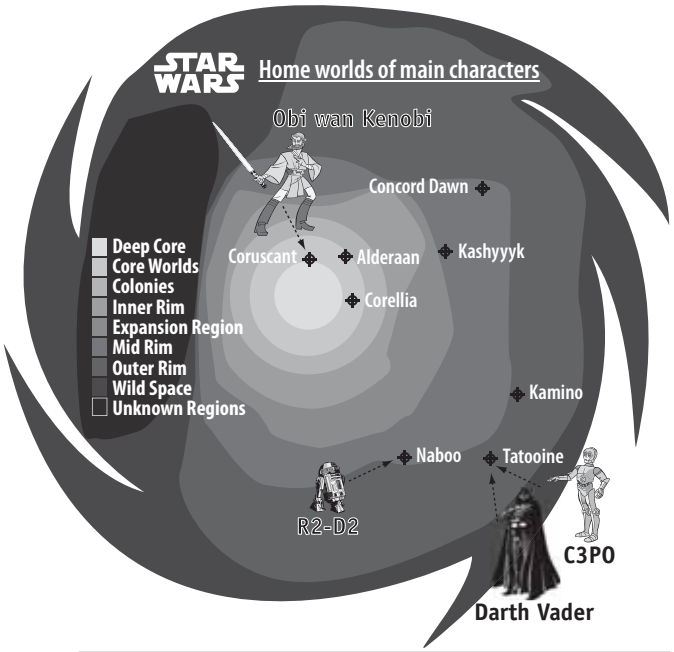
Skill 17.4 Identifying the location of objects on a map or a plan (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

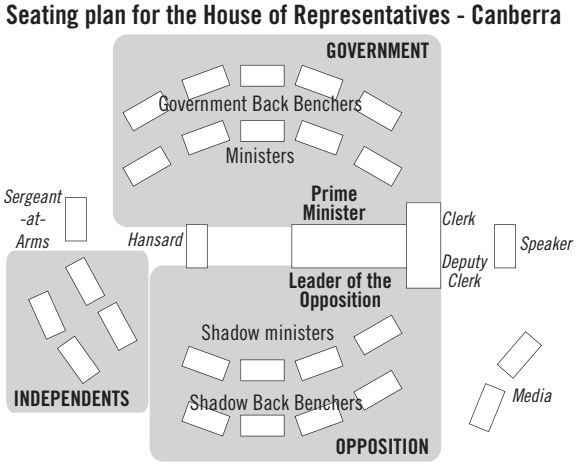
e) How many boat ramps are at Lake Epaloch?



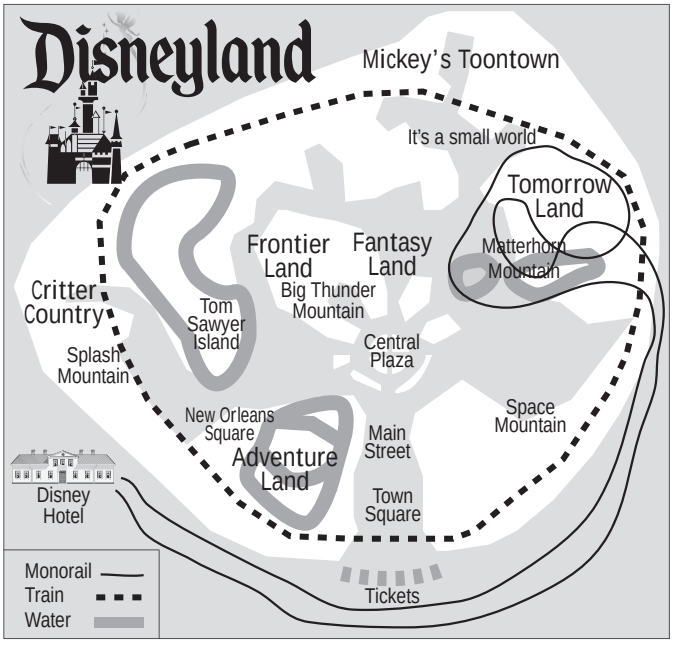
f) Who has their home world between Coruscant and Tatooine?



g) Who sits opposite the Leader of the Opposition?



h) Which land do you spend most time riding over on the monorail?

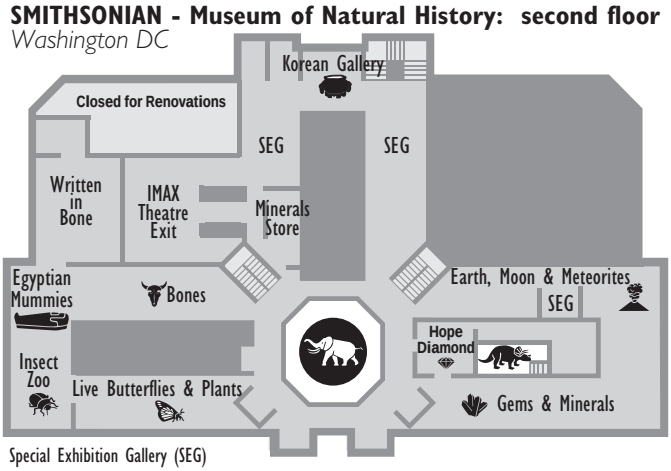


Skill 17.4 Identifying the location of objects on a map or a plan (3).

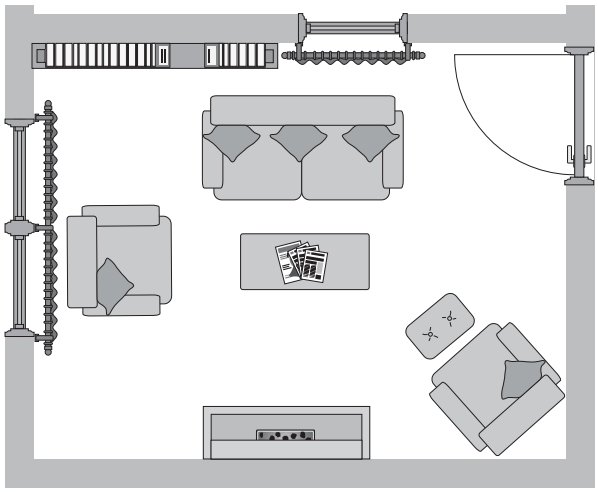
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

i) Which soccer player was born between Brasilia and Rio de Janeiro?

j) Which section of the museum is between Written in Bone and Insect Zoo?

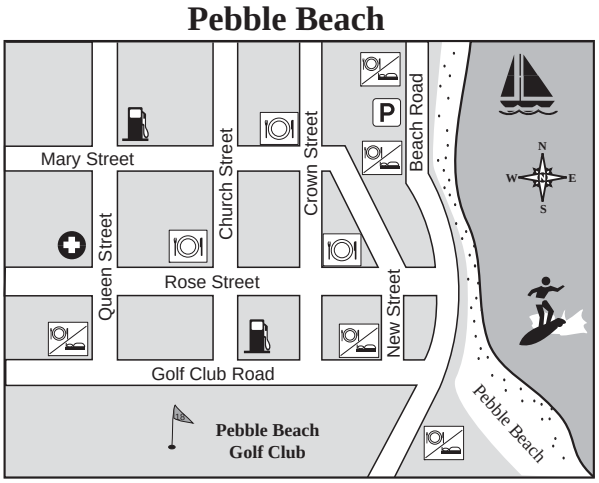


k) Which piece of furniture is between the couch and the fire?



l) As you walk from the beach along Golf Club Road, in which direction is the Golf Club?

A) right
B) left
C) straight ahead



Skill 17.5 Identifying the location of objects using columns and rows (1).

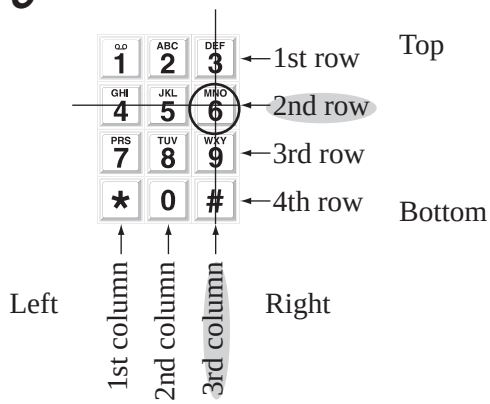
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

Hint: Columns go up and down (vertically).
Rows go across (horizontally).

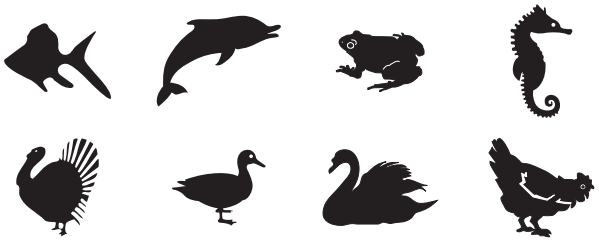
- Count the number of columns, from the left or the right (as asked).
- Draw a vertical line through the column.
- Count the number of rows, from the top or the bottom (as asked).
- Draw a horizontal line through the row.
- Locate the object where the two lines meet.

Q. Which number is in the third column from the left and on the second row from the top?

A. *6*



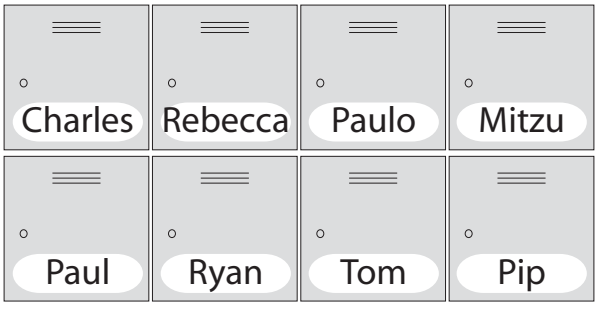
a) Which animal is in the first column from the left and on the top row?



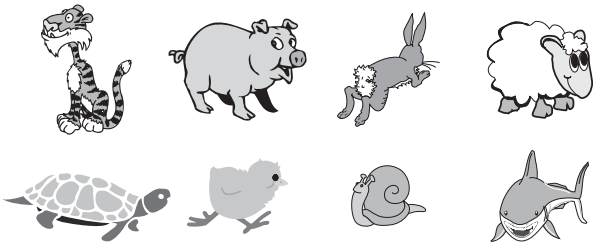
fish

b) Which number is in the first column from the right and on the third row from the top?

c) Who has the locker in the second column from the left and on the top row?



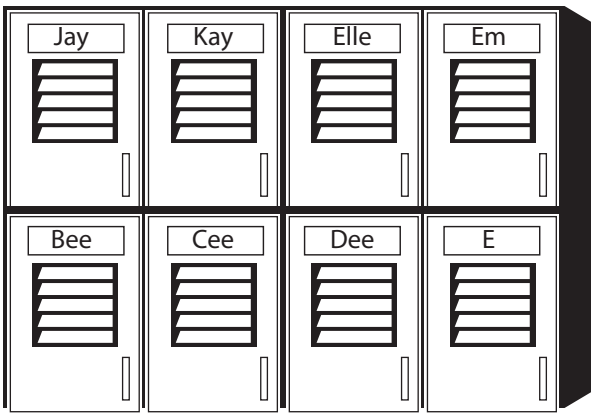
d) Which animal is in the third column from the left and on the bottom row?



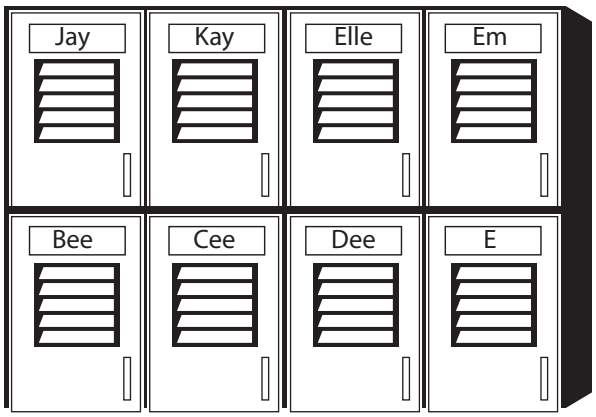
Skill 17.5 Identifying the location of objects using columns and rows (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

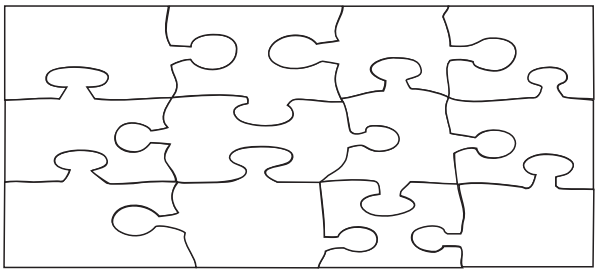
e) Who has the locker in the first column from the left and on the top row?



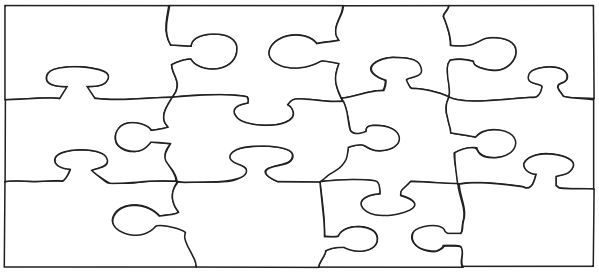
f) Who has the locker in the third column from the right and on the bottom row?



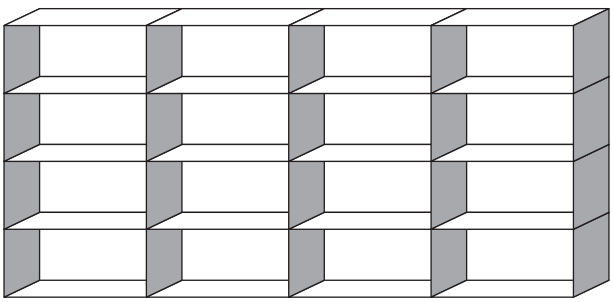
g) Draw a face in the jigsaw piece in the 1st column from the left, on the top row.



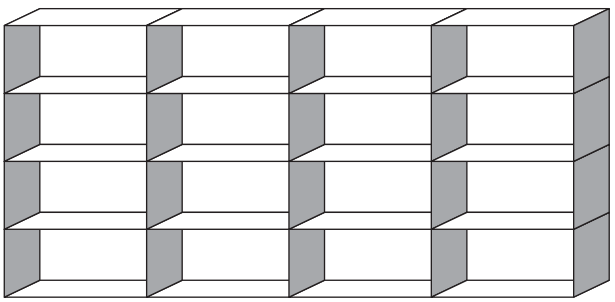
h) Draw a face in the jigsaw piece in the 4th column from the left, on the bottom row.



i) Draw a pair of glasses in the locker in the 2nd column from the left, 2nd row from the top.



j) Draw a yoyo in the locker in the 2nd column from the right, 3rd row from the bottom.

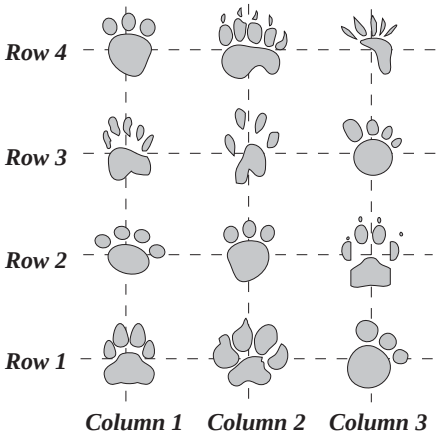


Skill 17.5 Identifying the location of objects using columns and rows (3).

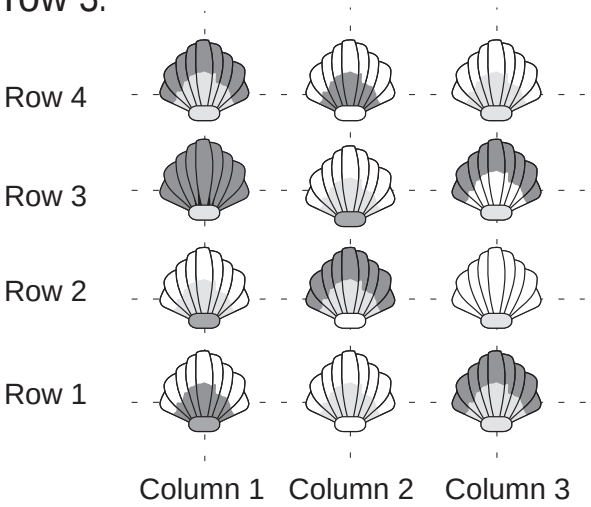
MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

k) Which number is in the second column and on the fourth row from the bottom of this keypad?

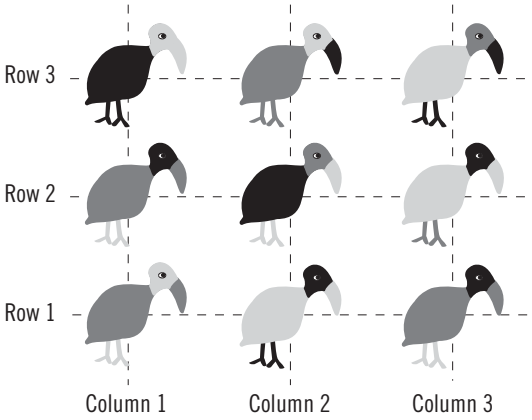
l) Circle the paw which is the pair of the paw in column 1, row 4.



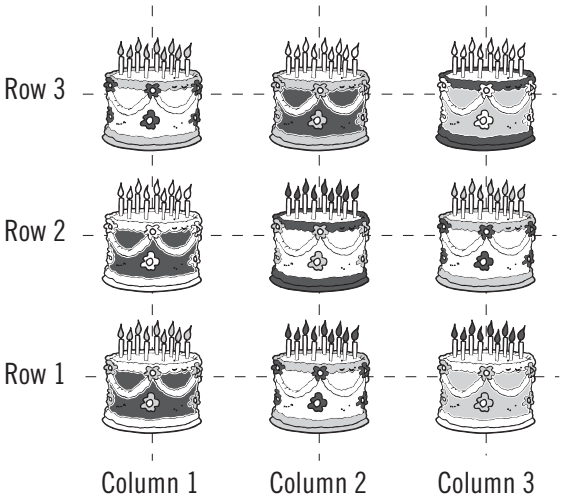
m) Circle the sea shell which is identical to the one in column 2, row 3.



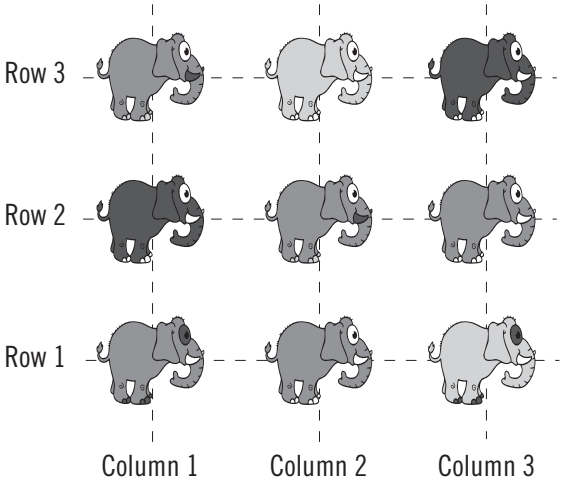
n) Circle the bird which is the same as the one in column 1, row 2.



o) Circle the cake which is the same as the one in column 1, row 3.



p) Circle the elephant which is the same as the one in column 3, row 2.

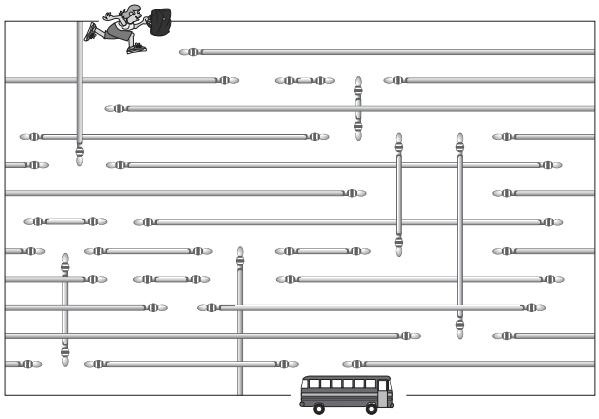


Skill 17.6 Following paths on a maze, grid or map (1).

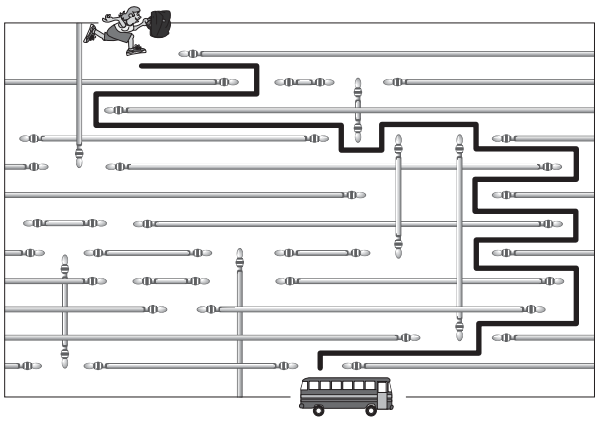
On a maze
- Use trial and error.
- Avoid dead ends.

On a grid
- Work out the direction.
- Count the number of spaces.
- Repeat for each step.

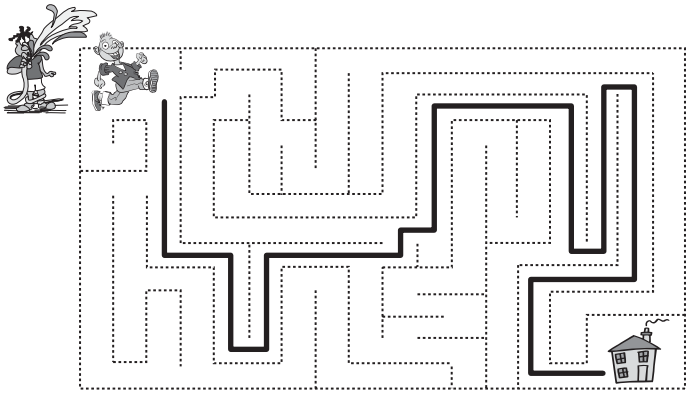
Q. Draw a path through the maze so that Naomi can catch the bus.



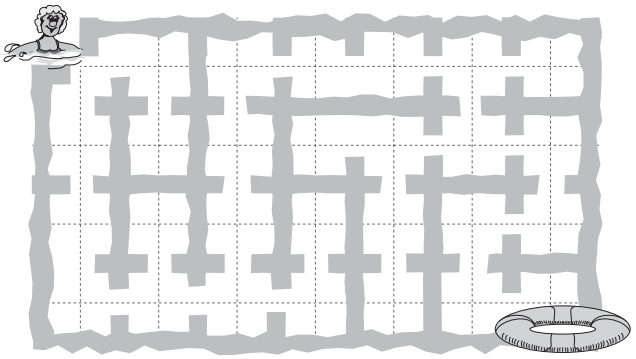
A.



a) Draw a path through the maze so that Harry can escape the water fight and get home.

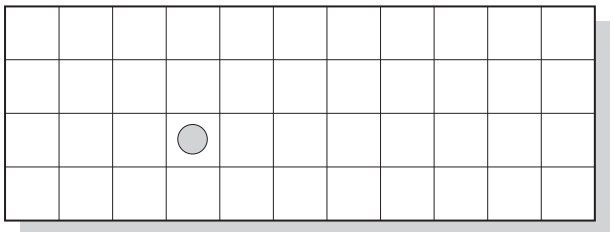


b) Draw a path through the maze so that Maisey can reach the lifebuoy.



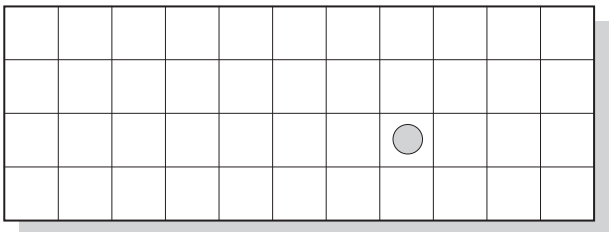
c) Draw the path of the counter by moving it:

5 right, 1 up, 2 left



d) Draw the path of the counter by moving it:

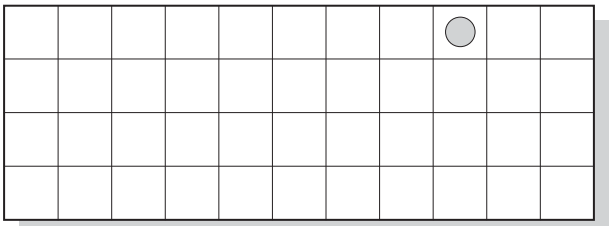
3 left, 2 up, 1 right



Skill 17.6 Following paths on a maze, grid or map (2).

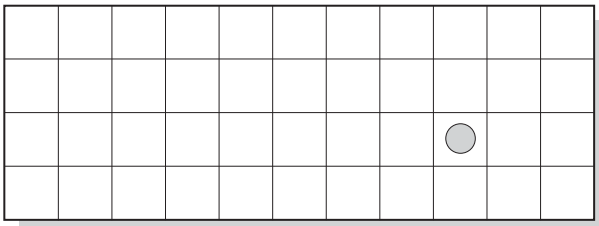
e) Draw the path of the counter by moving it:

2 down, 3 left, 2 up, 4 left

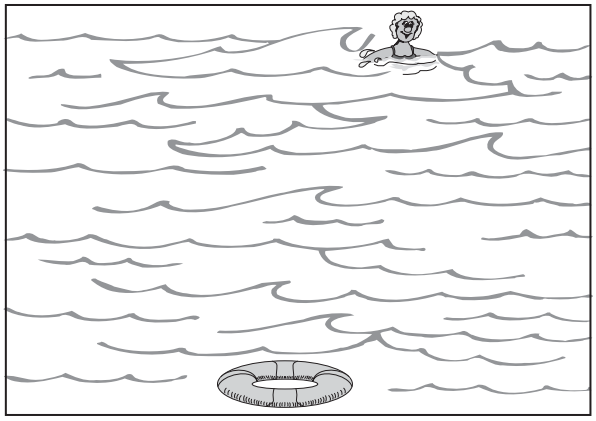


f) Draw the path of the counter by moving it:

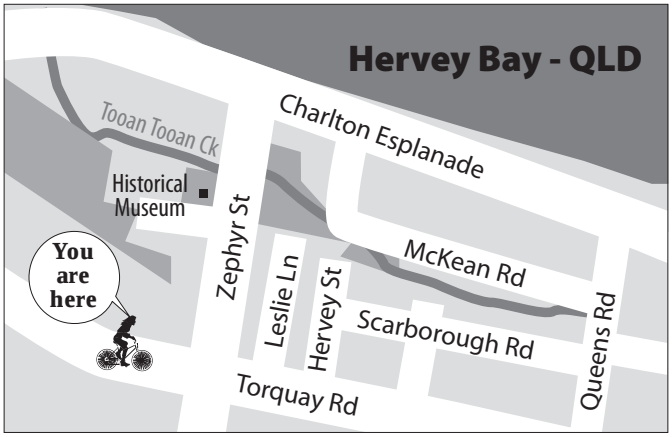
1 up, 4 left, 2 down, 4 left



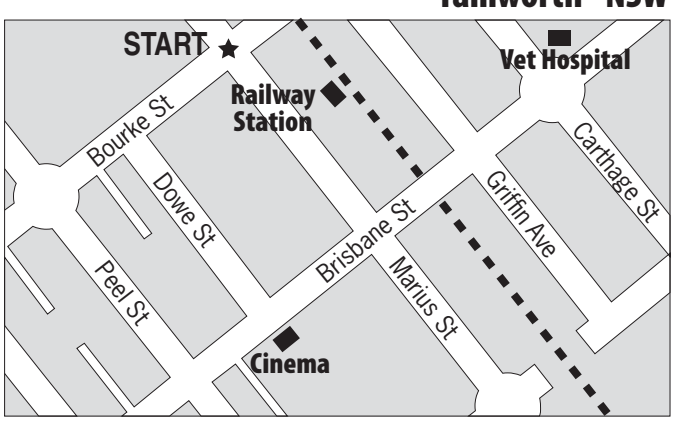
g) Draw a path through the wave maze so that the swimmer can reach the lifebuoy.



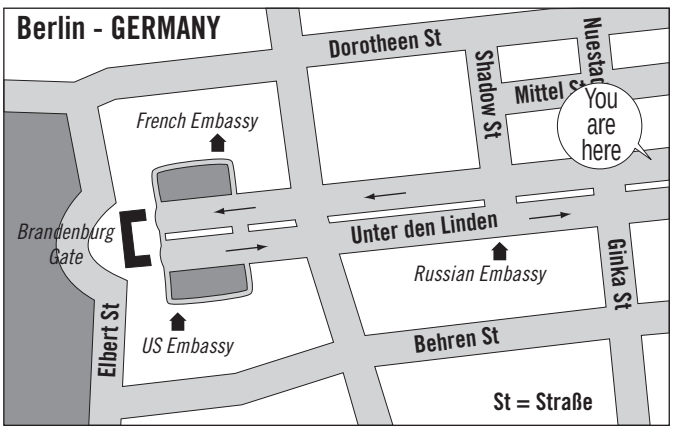
h) You ride along Torquay Rd towards Queens Rd. What is the third street on your left?



i) From the START you walk along Bourke St and turn left into Dowe St. Which landmark are you approaching?



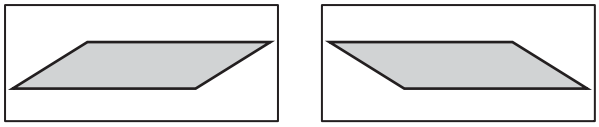
j) You drive along the Unter den Linden to the Brandenburg Gate. How many streets do you pass on your right?



Skill 17.7 Describing the transformation of an object.

- Compare the second image to the first image.
- See Glossary.

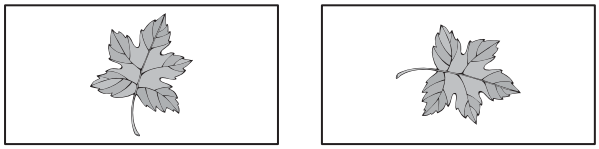
Q. Has this shape been moved by a flip, a slide or a turn?



A. ***flip***

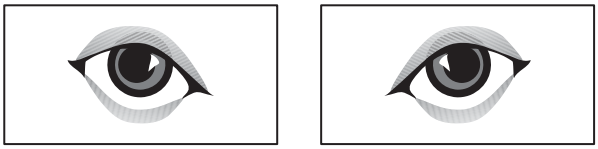
The shape has been moved like a reflection in the mirror or a flip.

a) Has this leaf been moved by a flip, a slide or a turn?

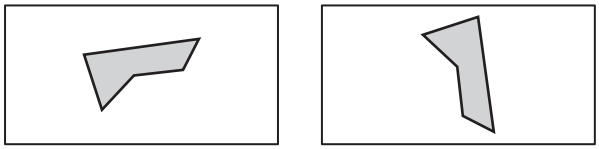


turn

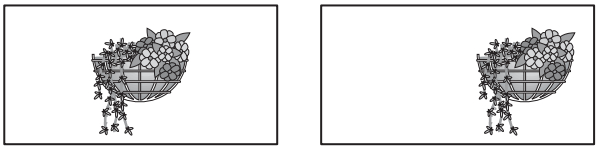
b) Has this eye been moved by a a flip, a slide or a turn?



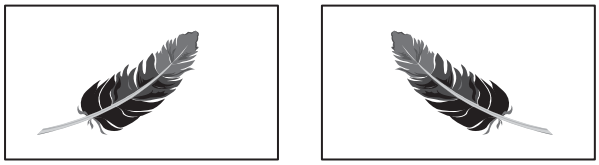
c) Has this shape been moved by a flip, a slide or a turn?



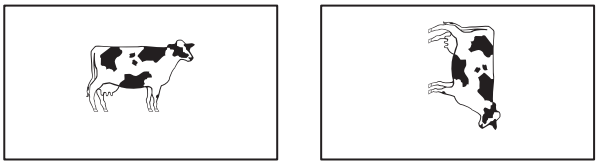
d) Has this hanging basket been moved by a flip, a slide or a turn?



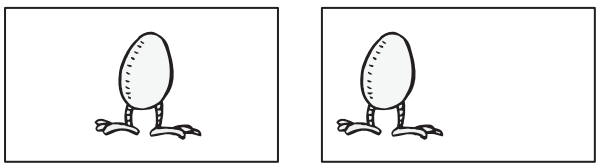
e) Has this feather been moved by a flip, a slide or a turn?



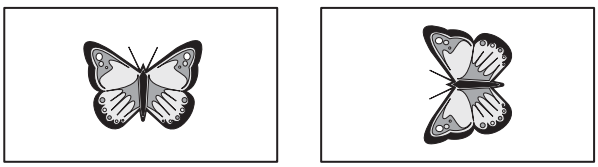
f) Has this cow been moved by a flip, a slide or a turn?



g) Has this egg been moved by a flip, a slide or a turn?



h) Has this butterfly been moved by a flip, a slide or a turn?

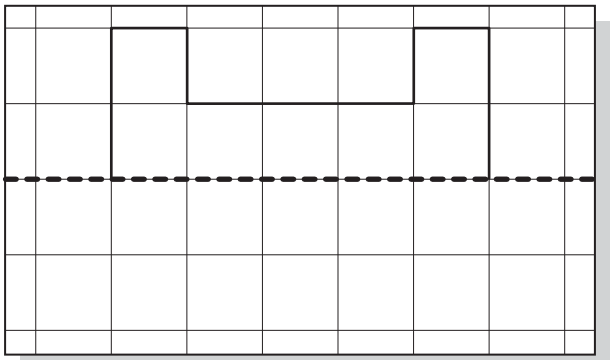


Skill 17.8 Drawing the transformation of an object on a grid (1).

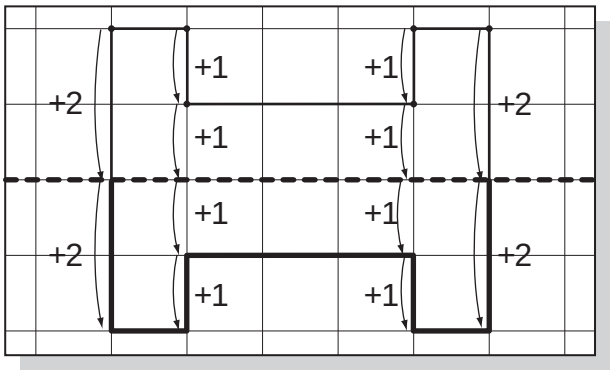
To draw a shape moved by a flip
- Mark every vertex on the shape.
- From each vertex move the same distance on the other side of the dashed line.
- Draw a point.
- Join the points.

To draw a shape moved by a slide
- Mark every vertex on the shape.
- From each vertex move across the required number of units.
- Draw a point.
- Join the points.

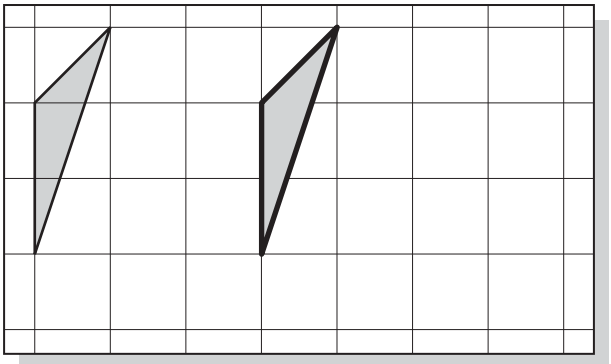
Q. Draw the reflection of this diagram flipped at the dashed line.



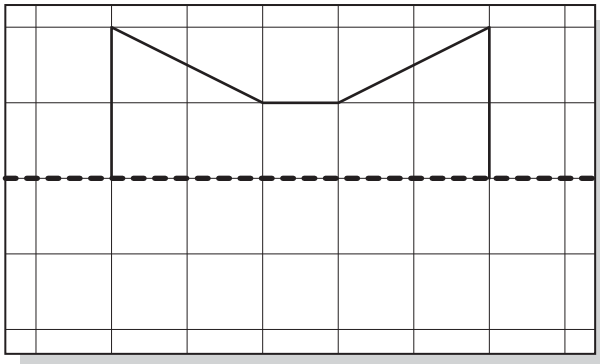
A.



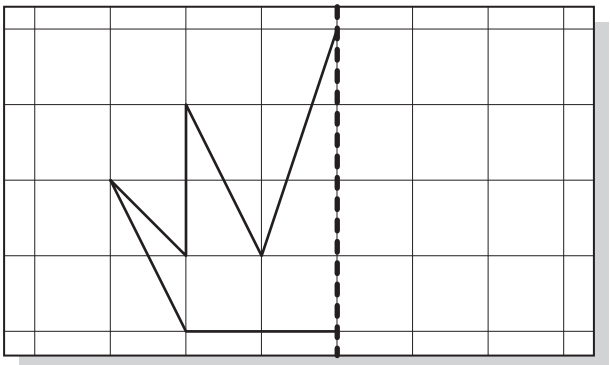
a) Redraw this diagram after sliding it 3 units to the right.



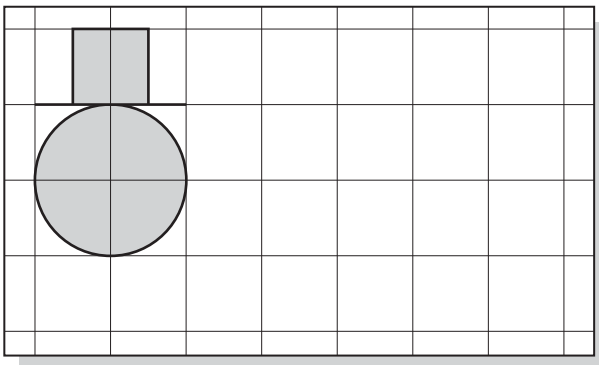
b) Draw the reflection of this diagram flipped at the dashed line.



c) Draw the reflection of this diagram flipped at the dashed line.

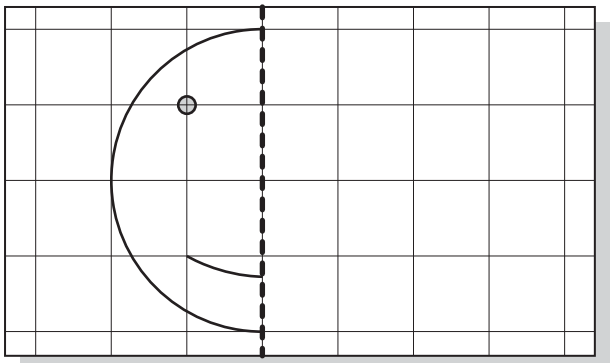


d) Redraw this diagram after sliding it 4 units to the right.

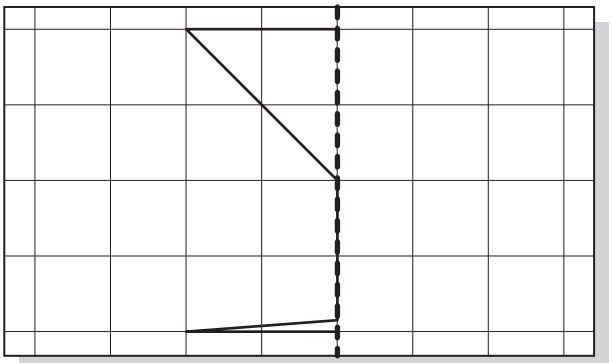


Skill 17.8 Drawing the transformation of an object on a grid (2).

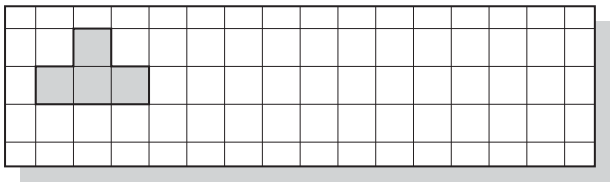
e) Draw the reflection of this diagram flipped at the dashed line.



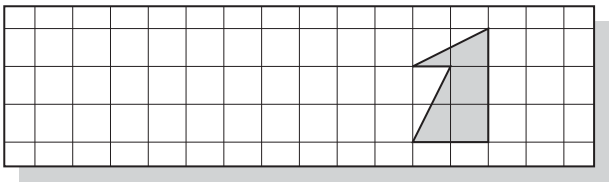
f) Draw the reflection of this diagram flipped at the dashed line.



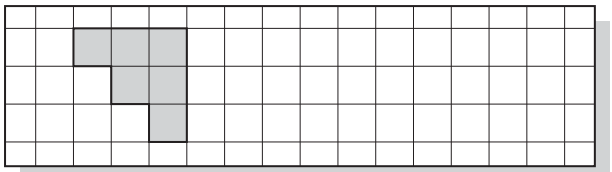
g) Redraw this diagram after sliding it 9 units to the right.



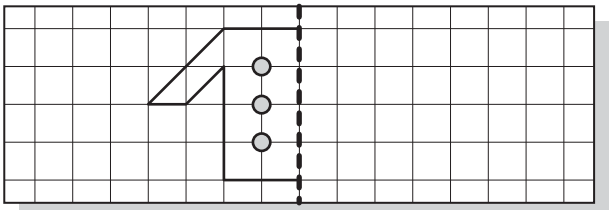
h) Redraw this diagram after sliding it 6 units to the left.



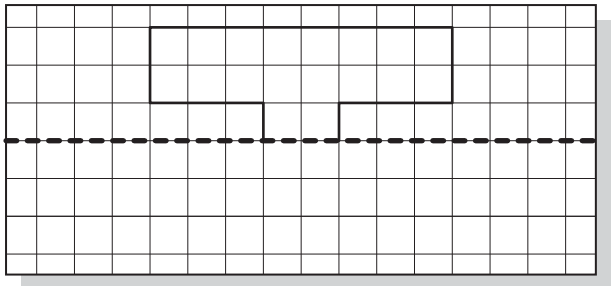
i) Redraw this diagram after sliding it 8 units to the right.



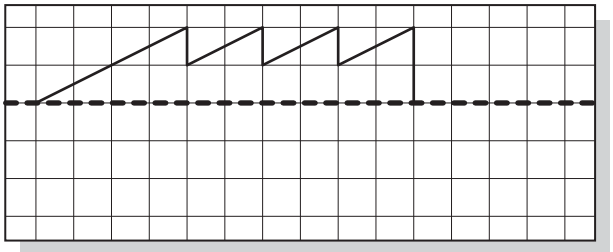
j) Draw the reflection of this diagram flipped at the dashed line.



k) Draw the reflection of this diagram flipped at the dashed line.



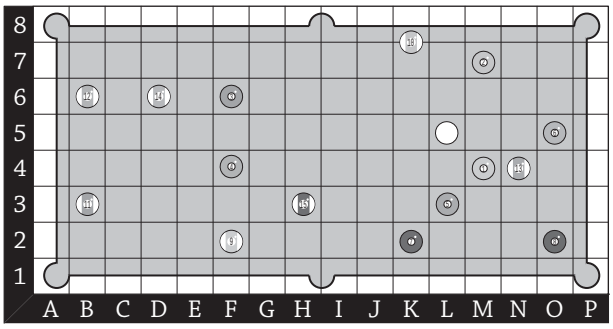
l) Draw the reflection of this diagram flipped at the dashed line.



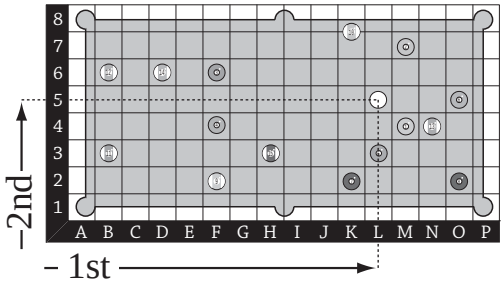
Skill 17.9 Describing location by using regions on a grid (e.g. A3) (1).

- Read across to find the letter that matches the column you need.
- Then read up to find the number that matches the row you need. The grid space that is common to both column and row marks the position you are locating.

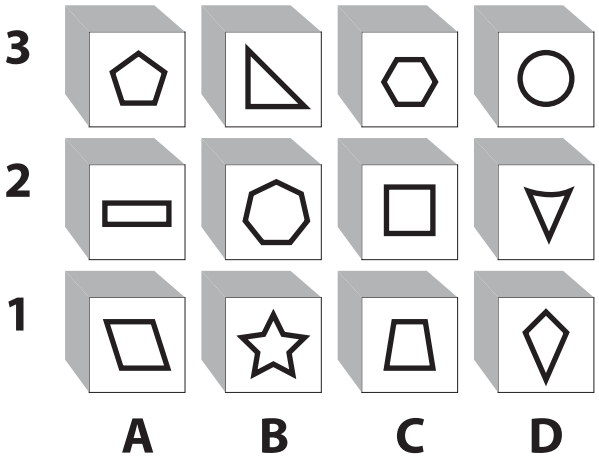
Q. Which ball is located at position L5?



A. ***white ball***

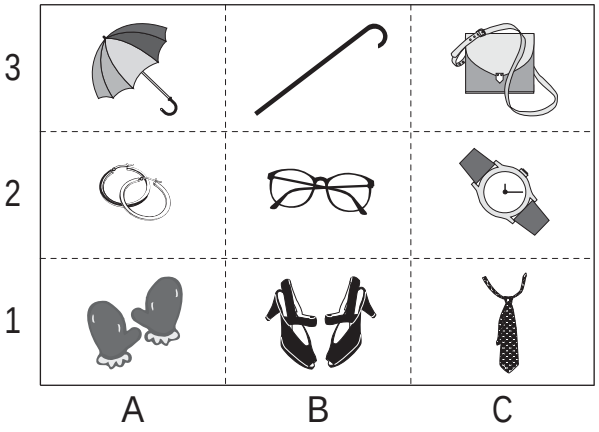


a) What is located at position A2?

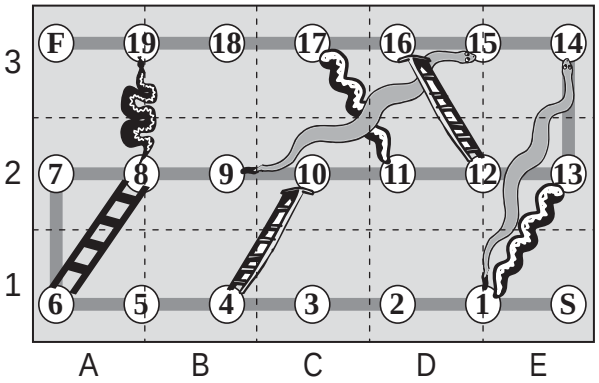


rectangle

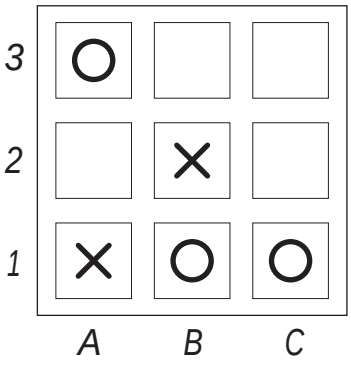
b) What is located at position C1?



c) Is there a snake or a ladder at position E3?



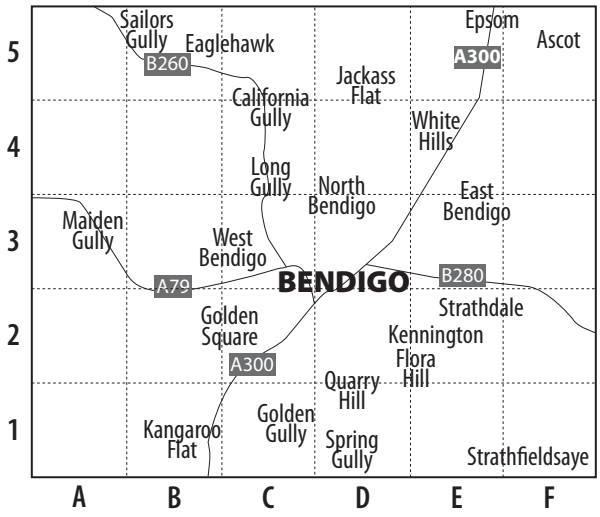
d) What is located at position B2?



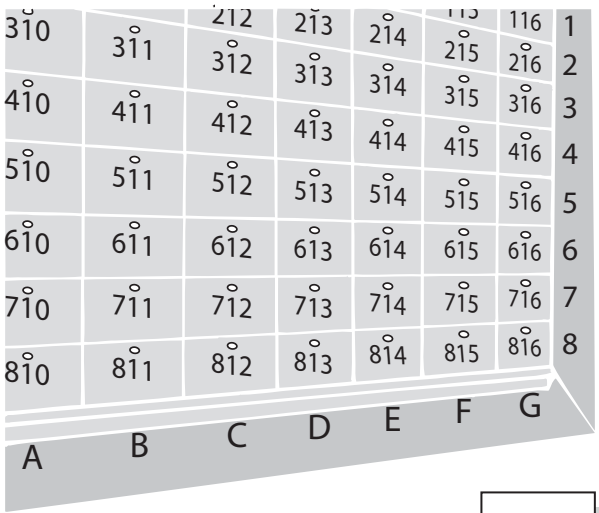
Skill 17.9 Describing location by using regions on a grid (e.g. A3) (2).

e) Which country is located at position D5?

f) Which suburb of Bendigo is located at position A3?

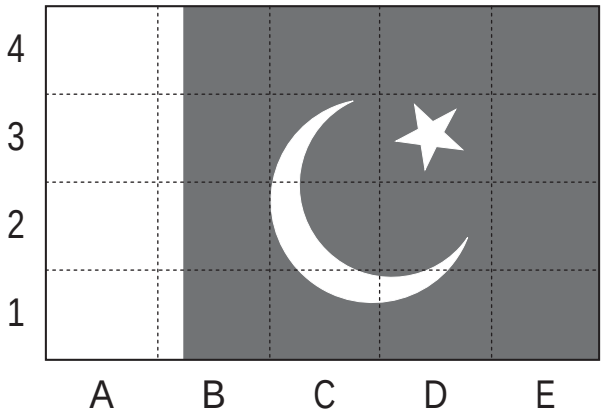


g) What is the number of the locker located at position F4?



h) In which position is the star on the flag of Pakistan?

A) B2 B) E4 C) A3 D) D3



Skill 17.9 Describing location by using regions on a grid (e.g. A3) (3).

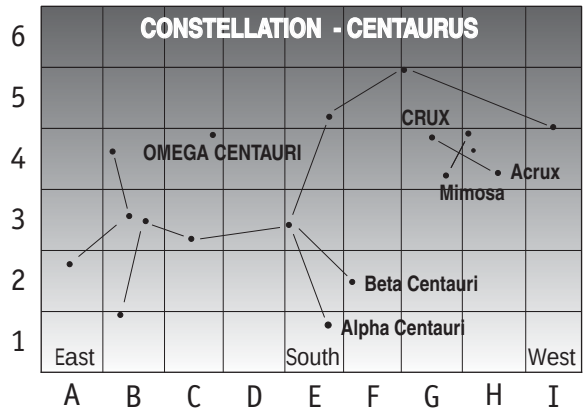
MM3 1 1 2 2 3 3 44
MM4 1 1 2 2 3 3 44

i) Which of these locations has a star in it?

A) B1 B) C2 C) E1 D) D3

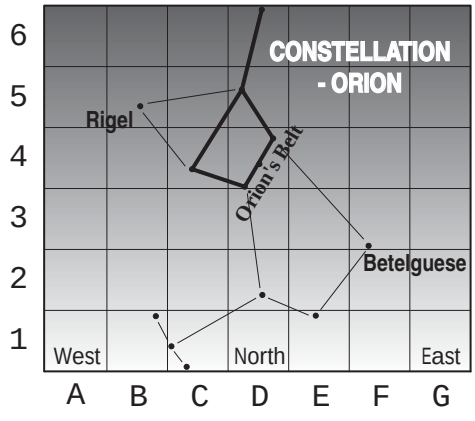
j) In which position is 'Alpha Centauri'?

A) C3 B) E1 C) H4 D) B3



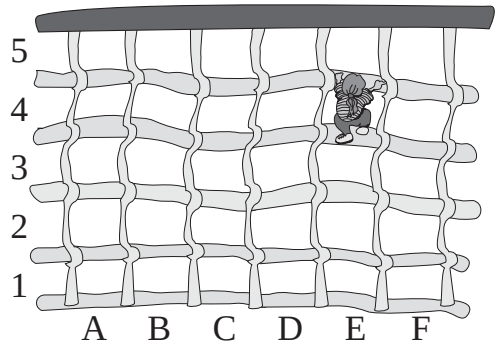
k) In which position is 'Rigel'?

A) C1 B) B5 C) D4 D) F3



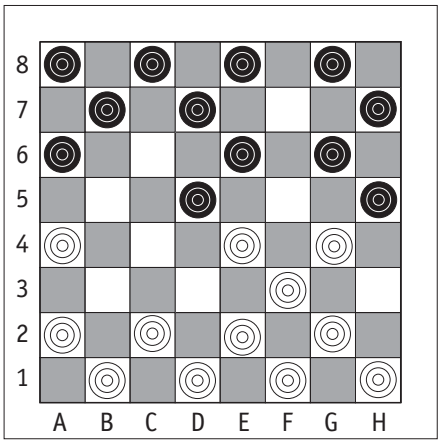
l) In which position is the climber?

A) F4 B) C2 C) E4 D) B5



m) Which of these locations has an empty white square in it?

A) G8 B) C4 C) F4 D) C2

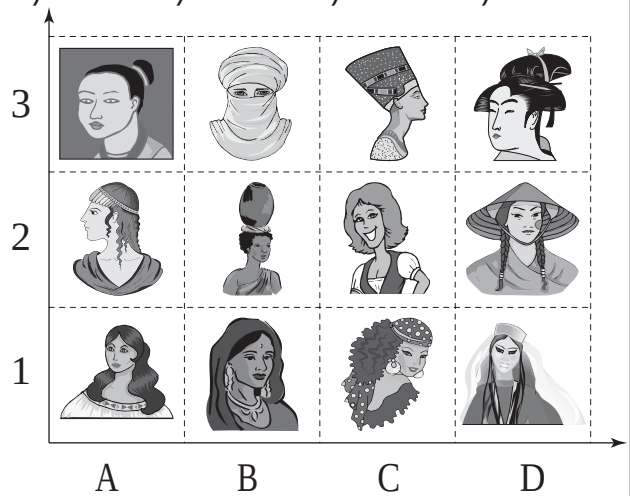


Black

White

n) In which position is the Japanese woman?

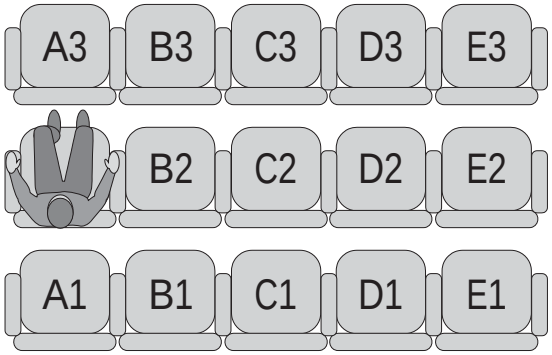
A) D2 B) C3 C) A1 D) D3



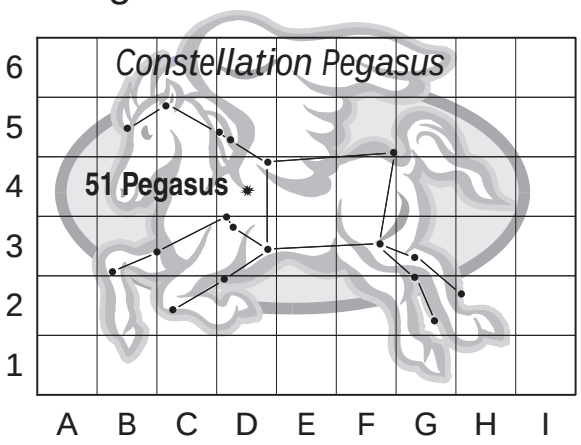
Skill 17.9 Describing location by using regions on a grid (e.g. A3) (4).

MM3 1 1 2 2 3 3 44
MM4 1 1 2 2 3 3 44

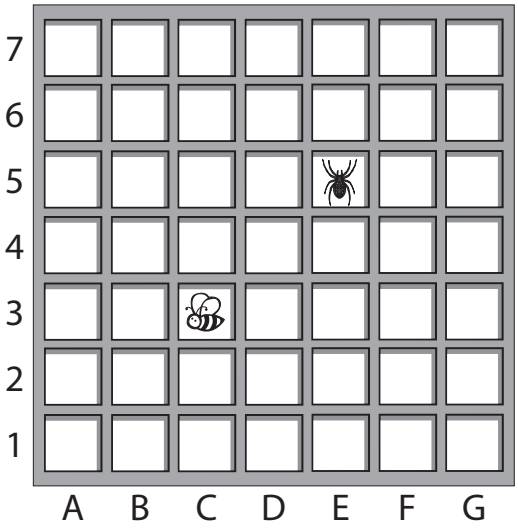
o) In which seat is the man sitting?



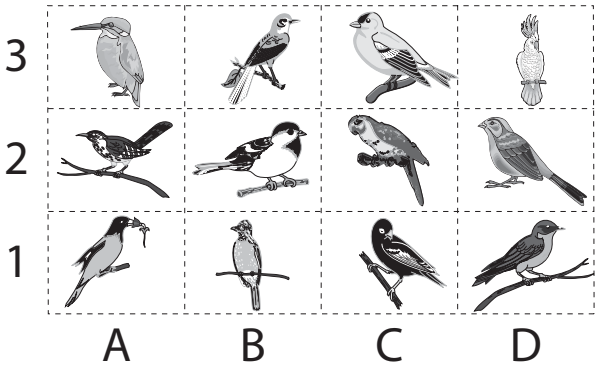
p) In which position is the star '51 Pegasus'?



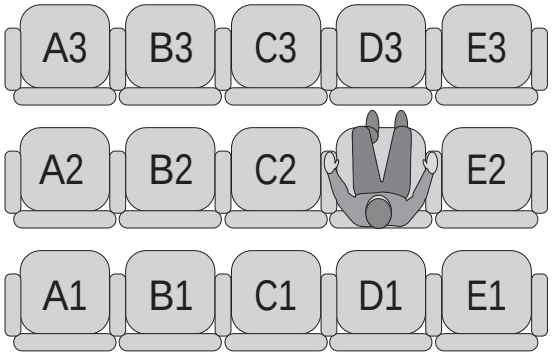
q) If the position of the bee is C3, what is the position of the spider?



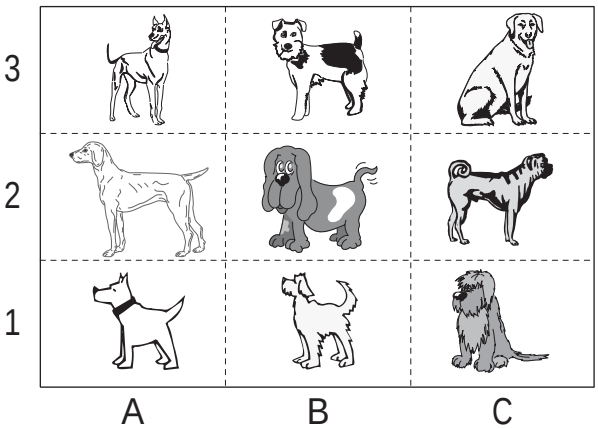
r) If the position of the parrot is C2, what is the position of the kookaburra?



s) In which seat is the man sitting?



t) If the position of the dane is A3, what is the position of the labrador?



18. [Statistics / Probability]

Skill 18.1 Interpreting picture graphs using one-to-one correspondence.

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Find the value of each picture by checking the key or scale.
- Count the number of pictures in the row or column as asked by the question.

Q. How many years does an engineering degree take?

Years for degree

Arts	
Medicine	
Science	
Engineering	

Each = 1 year

A. ***4***

Each = 1 year

The scale is 1 picture = 1 year

Arts	
Medicine	
Science	
Engineering	1 2 3 4

There are 4 pictures in the engineering row.
4 pictures = 4 years

a) How many eyes does a bee have?

Number of Eyes

Bee	
Fly	
Wasp	

Key: = 1 eyes

b) How many main islands make up New Zealand?

Countries - Number of main islands

Australia	New Zealand	Japan	Samoa

Each = 1 island

c) Which sport has a goal worth 6 points?

✔ = 1 goal

Value of a goal

Rugby Union (place kick)	Field Hockey	Soccer	Rugby League (place kick)	Australian Rules Football
✔ ✔ ✔	✔	✔	✔ ✔	✔ ✔ ✔ ✔ ✔ ✔

d) Which flower has 3 petals?

Flower Petals

Key: = 1 petal

Iris	Daffodil	Rose	Buttercup

Skill 18.2 Recognising tally marks.

- Count or draw one dash for one value.
- Draw four dashes and a crossways dash to represent 5. Counting by 5s helps.

|	= 1
||	= 2
|||	= 3
||||	= 4
𝍸	= 5

Q. Use tally marks (|) to show the number 12.

A. 𝍸 𝍸 ||

a) What number is shown by the tally marks?

|||| 4

b) What number is shown by the tally marks?

𝍸 ☐

c) What number is shown by the tally marks?

𝍸 |||| ☐

d) What number is shown by the tally marks?

𝍸 𝍸 ||| ☐

e) What number is shown by the tally marks?

𝍸 | ☐

f) What number is shown by the tally marks?

𝍸 𝍸 ☐

g) Use tally marks (|) to show the number 3. ☐

h) Use tally marks (|) to show the number 11. ☐

i) Use tally marks (|) to show the number 7.

Number	Tally
7	

j) Use tally marks (|) to show the number 12.

Number	Tally
12	

k) What number is shown by the tally marks?

Tally	Number
𝍸 |||	

l) What number is shown by the tally marks?

Tally	Number
𝍸 𝍸 ||||	

Skill 18.3 Interpreting and completing tables with tally marks (1).

- Count the tally marks and write the number.
- Draw tally marks for the given number.

Q. Complete the tally table.

Lighthouse Survey

States	Tally	Number
Connecticut	𝍸	5
New Jersey	𝍸 𝍸 IIII	
Delaware		4
Washington	𝍸 II	

A.

Lighthouse Survey

States	Tally	Number
Connecticut	𝍸	5
New Jersey	𝍸 𝍸 IIII	14
Delaware	IIII	4
Washington	𝍸 II	7

Count the number of tally marks for New Jersey and Washington. Write their totals in the number column.

Draw 4 tally marks for Delaware.

a) Complete the tally table.

Vehicle Type Passing School

Vehicle	Tally	Number
Sedan	𝍸 IIII	9
Station Wagon	𝍸 I	6
Minivan	III	3
Convertible	𝍸	5

b) Complete the tally table.

People per square kilometre

Country	Tally	Number
Norway	𝍸 𝍸 IIII	
Bolivia	𝍸 II	7
PNG	𝍸 𝍸	10
Iceland	III	

c) Complete the tally table.

Drive - a - thon

Driver	Lap Tally	Number
F. Alonso	𝍸 III	
G. Fisichella	𝍸 𝍸 I	11
A. Suzuki	𝍸 IIII	
M. Schumacher	𝍸 I	

d) Complete the tally table.

Frequency of 2, 3, 4, 5 as factors of the numbers 1 to 10

Factor	Tally	Number
2	𝍸	
3		3
4		2
5	II	

e) Complete the tally table.

Books in a series

Series	Tally	Number
Underland Chronicles	𝍸	
Deltora Quest	𝍸 III	8
Mary Poppins	𝍸 II	
The Bliss Bakery	III	

f) Complete the tally table.

Eyelets in shoes

Shoe Type	Tally	Number
Runner	𝍸 𝍸 IIII	
Boat shoe		4
School shoe		8
Men's dress shoe	𝍸 𝍸	

Skill 18.3 Interpreting and completing tables with tally marks (2).

g) Complete the tally table for the days of rain in May 2012:

Canberra - 4, Perth - 9,
Brisbane - 8, Adelaide - 13

Days of rain in May 2012

City	Tally	Number
Canberra	IIII	
Perth		9
Brisbane		
Adelaide		

h) Complete the tally table for the average sunlight hours per day in Paris.

January - 2, April - 6,
July - 8, October - 4

Average sunlight hours per day in Paris

Month	Tally	Number
January	II	2
April		
July		
October		

i) Complete the tally table. How many goals were kicked in the 2011 AFL grandfinal?

Total goals in the 2011 AFL grandfinal

Quarter	Tally	Number
1st	𝍸 III	
2nd		9
3rd		8
4th	𝍸	

j) Complete the tally table. How many vowels are in Shakespeare's longest word?

'Honorificabilitudinitatibus'

Vowel	Tally	Number
a	II	2
i		
o		
u		

k) Complete the tally table. How many vowels are in this word from Mary Poppins?

'Supercalifragilisticexpialidocious'

Vowel	Tally	Number
a	III	3
e		
i		
o		
u		

l) Complete the tally table. How many tiles in a Scrabble set are vowels?

A I A A I U A I A O I A I A O U I A A E E O E U E E E I O O E E E O E E E I I O O U

Scrabble tiles	Tally	Number
A	𝍸 IIII	9
E		
I		
O		
U		

Skill 18.4 Recognising the likelihood of an event as likely, unlikely, certain, uncertain, possible, impossible (1).

Q. What is the chance ...

"A tourist will visit Alaska tomorrow."

A) possible
B) impossible

A. ***A***

Alaska is a possible tourist destination. Alaska is not an impossible place to visit.

a) What is the chance ...

"Some of your classmates will get jobs in computers."

A) likely
B) unlikely

A

b) What is the chance ...

"If this month is April last month was March."

A) certain
B) uncertain

c) What is the chance ...

"The nectarine is sweeter than the peach."

A) certain
B) uncertain

d) What is the chance ...

"A volcano will erupt at Ayers Rock tomorrow."

A) possible
B) impossible

e) What is the chance ...

"You go to hospital at least once in your life."

A) likely
B) unlikely

f) What is the chance ...

"Raj, who is 11, will be 8 next birthday."

A) possible
B) impossible

g) What is the chance ...

"Supermarkets will give away free groceries tomorrow."

A) likely
B) unlikely

h) What is the chance ...

"The cat is faster than the dog."

A) certain
B) uncertain

Skill 18.4 Recognising the likelihood of an event as likely, unlikely, certain, uncertain, possible, impossible (2).

i) What is the chance …

"Easter Sunday will fall on a Tuesday."

A) possible
B) impossible

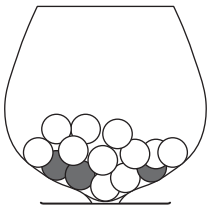
j) What is the chance …

"One classmate will come to school by car tomorrow."

A) certain
B) uncertain

k) White and red marbles are in a bowl. You choose a marble without looking. How likely is it that you will pick a white one?

A) certain
B) unlikely
C) likely
D) impossible

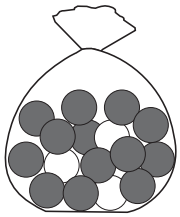


l) There are 8 white marbles and 11 green marbles in a bag. What is the chance that the first marble drawn from the bag will be black?

A) certain
B) unlikely
C) likely
D) impossible

m) There are 3 white marbles and 13 red marbles in a bag. What is the chance that the first marble drawn from the bag will be white?

A) certain
B) unlikely
C) likely
D) impossible



n) There are 4 white marbles and 7 red marbles in a bag. What is the chance that the first marble drawn from the bag will be either red or white?

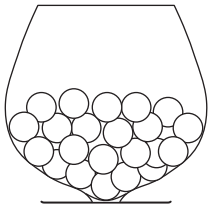
A) certain
B) unlikely
C) likely
D) impossible

o) White and red marbles are in a bowl. You choose a marble without looking. How likely is it that you will pick a red one?

A) certain
B) unlikely
C) likely
D) impossible

p) White marbles are in a bowl. You choose a marble without looking. How likely is it that you will pick a red one?

A) certain
B) unlikely
C) likely
D) impossible



Skill 18.5 Interpreting picture graphs where one picture represents many data values (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

- Find the value of each picture by checking the key or scale.
- Multiply the number of pictures by the key value. OR Count by that number.

Q. How many strings does an electric guitar have?

Instruments: number of strings

electric guitar	♪ ♪ ♪
cello	♪ ♪

Key: ♪ = 2 strings

A. *6*

Key: ♪ = 2 strings

The key is 1 picture = 2 strings

electric guitar	♪ ♪ ♪
cello	♪ ♪

Count by 2: 2, 4, 6

There are 3 pictures in the electric guitar row.
2 × 3 = 6
3 pictures = 6 strings

a) How many strings does a mandolin have?

Instruments: number of strings

mandolin	♪ ♪ ♪ ♪
violin	♪ ♪

Key: ♪ = 2 strings

8

b) Which flower has 4 petals?

Flower Petals

Agapanthus	Hyacinth	Poppy	Delphinium

Key: = 2 petals

c) How long does it take to digest an orange?

Digestion time

orange	peach	potato	corn cob

each = 1 hour each = $\frac{1}{2}$ hour

hours

d) How many hours does it take to drive from Melbourne to Sydney?

Drive Time

Melbourne - Sydney	
Melbourne - Echuca	
Melbourne - Mildura	

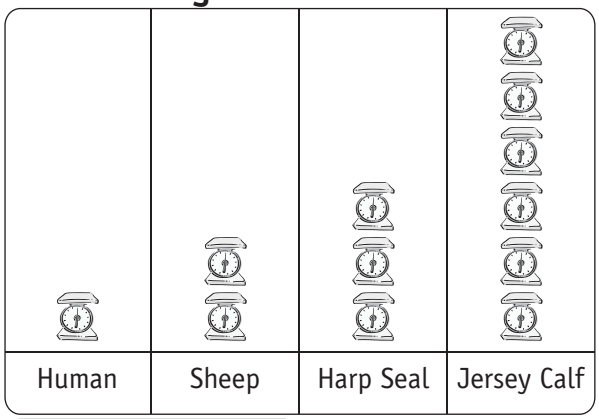
Each = 3 hours

Skill 18.5 Interpreting picture graphs where one picture represents many data values (2).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

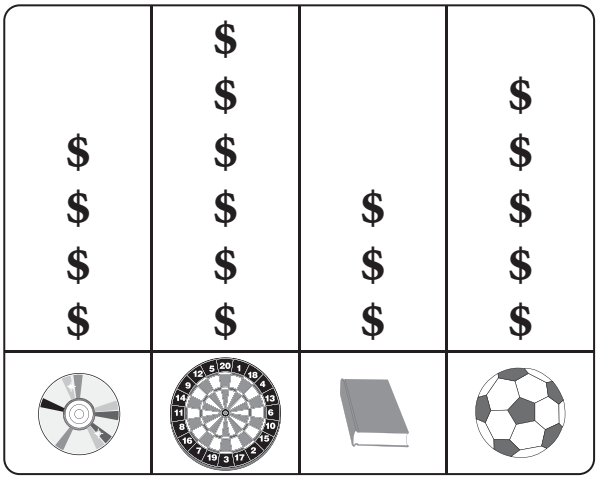
e) Which newborn weighs 6 kg?

Weight of a newborn



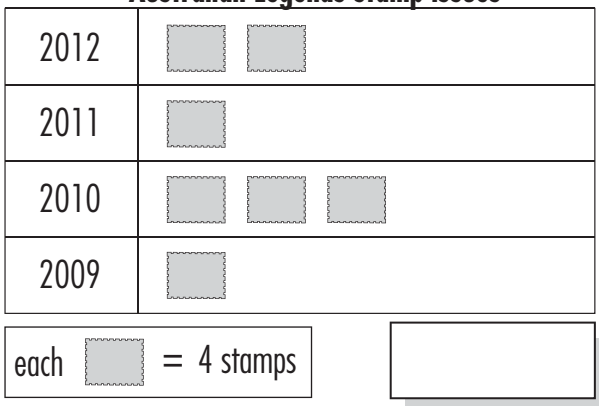
f) How much does the book cost?

Cost of items



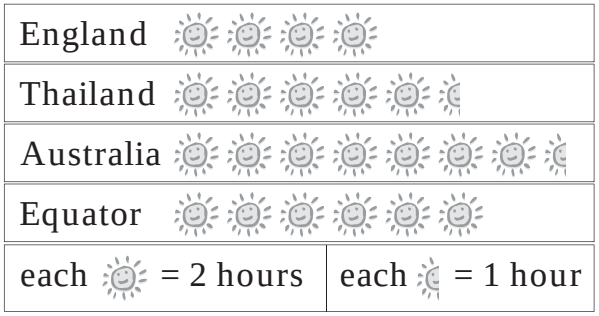
g) In which year were 8 legends stamps issued?

Australian Legends stamp issues



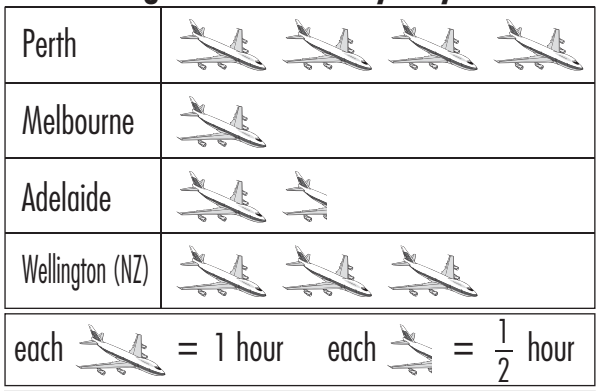
h) Which location has 11 daylight hours in December?

Daylight hours in December - (average)



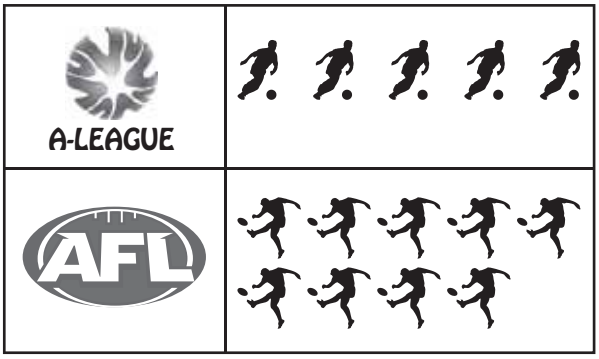
i) Which city is a one and a half hour flight from Sydney?

Flight time: From Sydney to...



j) How many more teams in the AFL than the A-League?

Players on the field



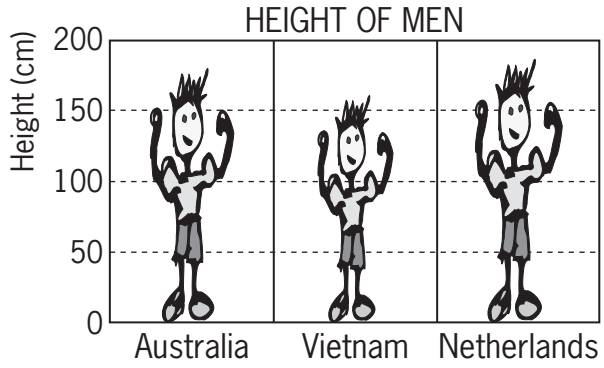
Skill 18.6 Interpreting bar graphs (1).

- Find the value of each line space by checking the scale on the side of the graph.

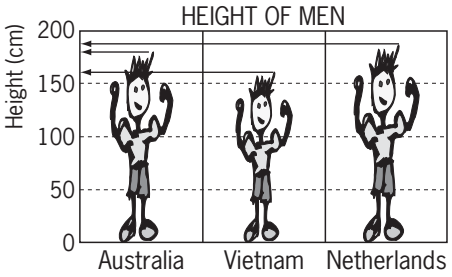
OR

- Compare the height (or length) of each bar.

Q. Which country has the shortest men?

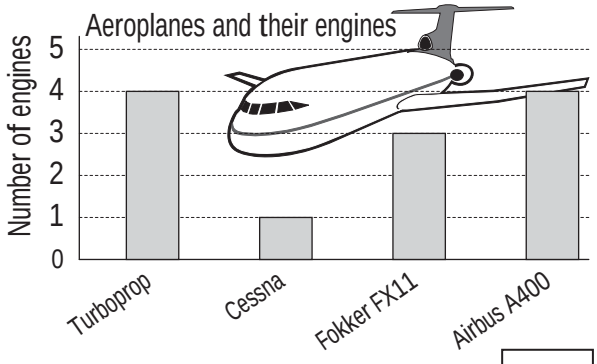


A. ***Vietnam***



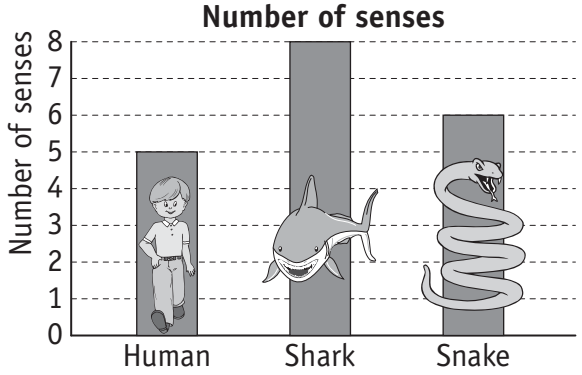
Compare the height of each man. The shortest man is in the 'Vietnam' column.

a) How many engines does a Fokker FX11 have?

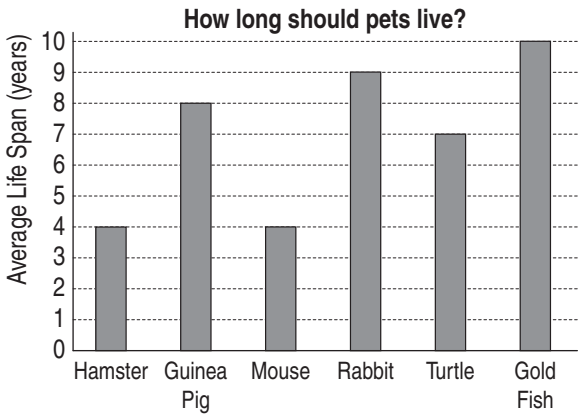


3

b) Which animal has 8 senses?

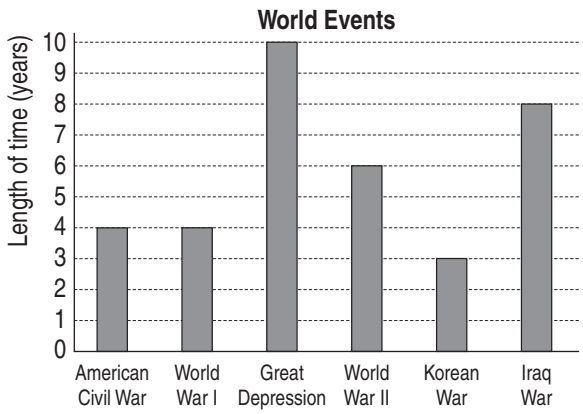


c) For how long should a mouse live?



years

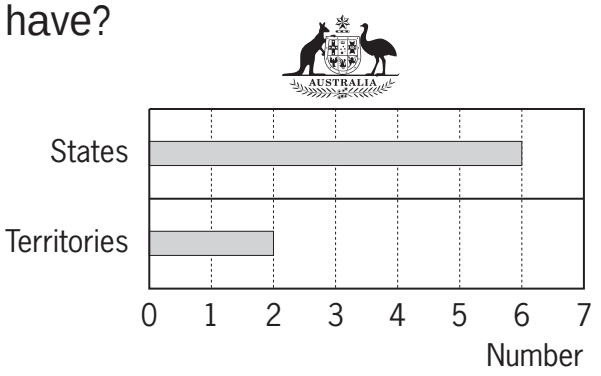
d) For how long was World War II?



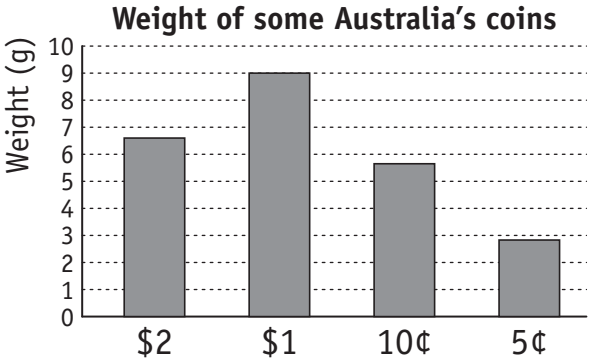
years

Skill 18.6 Interpreting bar graphs (2).

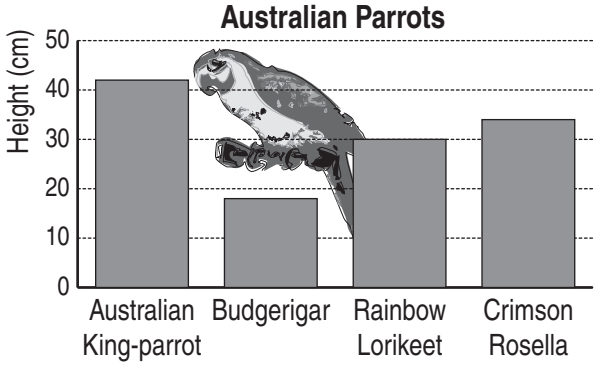
e) How many states does Australia have?



f) Which coin is the heaviest?

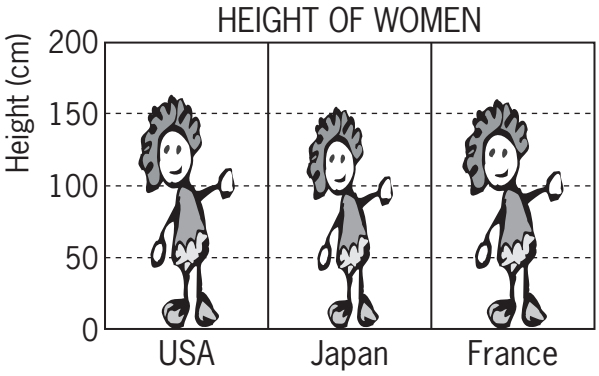


g) What is the height of the Rainbow Lorikeet?

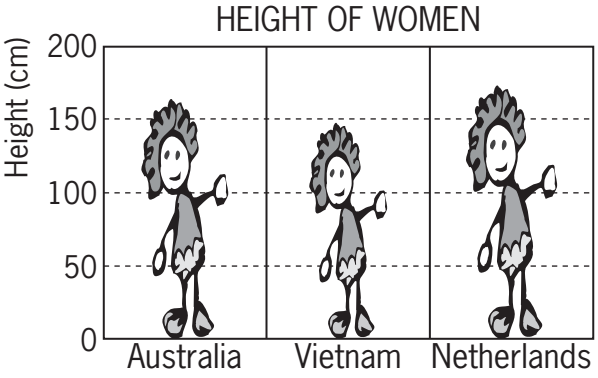


cm

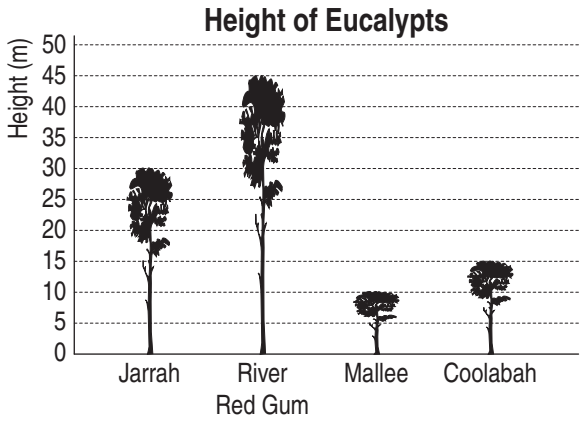
h) Which country has the shortest women?



i) Which country has the tallest women?



j) How high is the River Red Gum?



metres

Skill 18.7 Comparing the chance of two events.

- Count the number of chances for the first event.
- Count the number of chances for the second event.
- Compare the number of chances of each event.

Q. Two jars contain chocolates. A chocolate is chosen from each jar without looking. From which jar does a dark chocolate have no chance of being chosen?

A)  B) 

A. ***B***

Event 1:
Jar A contains 4 dark chocolates
$\Rightarrow$ 4 chances

Event 2:
Jar B contains 0 dark chocolates
$\Rightarrow$ 0 chances

a) Two jars contain chocolates. A chocolate is chosen from each jar without looking. From which jar does a white chocolate have a greater chance of being chosen?

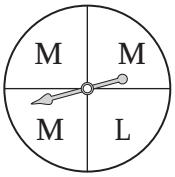
A)  B) 

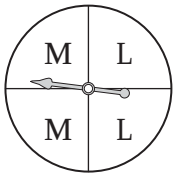
B

b) Two jars contain chocolates. A chocolate is chosen from each jar without looking. From which jar does a white chocolate have no chance of being chosen?

A)  B) 

c) Each wheel is spun once. On which wheel does the letter 'L' have a lesser chance of being spun?

A) 

B) 

d) Each wheel is spun once. On which wheel does letter 'Z' have a greater chance of being spun?

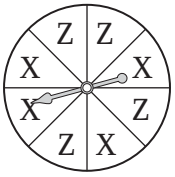
A) 

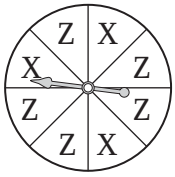
B) 

e) Two jars contain chocolates. A chocolate is chosen from each jar without looking. From which jar is a dark chocolate sure to be chosen?

A)  B) 

f) Each wheel is spun once. On which wheel do the letters 'X' and 'Z' have equal chance to be spun?

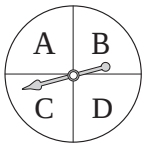
A) 

B) 

Skill 18.8 Listing all the possible outcomes of an event.

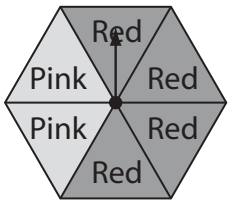
- List all the possibilities (outcomes), ignoring double-ups.

Q. List the four possible outcomes when you spin this spinner.



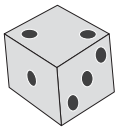
A. ***A, B, C, D***

a) List the two possible outcomes when you spin this spinner.

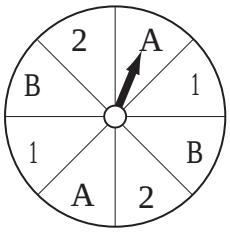


pink, red

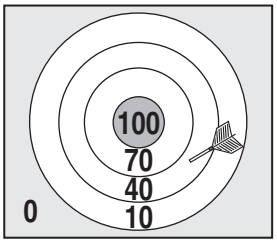
b) List the six possible outcomes when you roll a standard die.



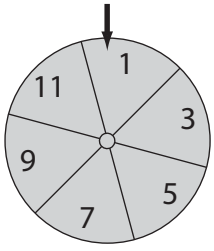
c) List the four possible outcomes when you spin this spinner.



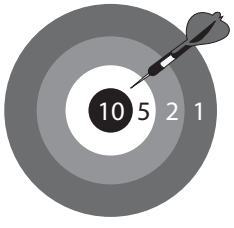
d) List the five possible outcomes when you throw a dart and hit the board.



e) List the six possible outcomes when you spin this spinner.



f) List the four possible outcomes when you throw a dart and hit the board.



Skill 18.9 Representing data from tables as bar graphs and data from bar graphs as tables (1).

MM3 1 1 2 2 3 3 4 4
MM4 1 1 2 2 3 3 4 4

Representing tables as bar graphs

- Check the value of the category.
- Find that category on the bar graph.
- Draw a bar to the length of that value by using the scale.

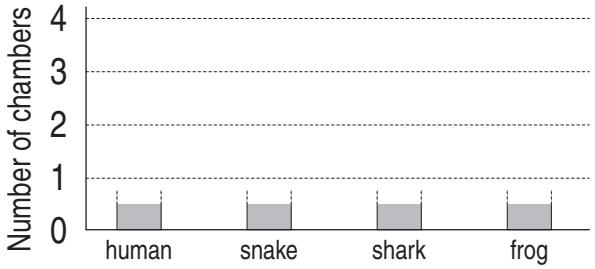
Representing bar graphs as tables

- Check the length of the bar for a category.
- Find that category in the table.
- Fill in the table using the length of the bar.

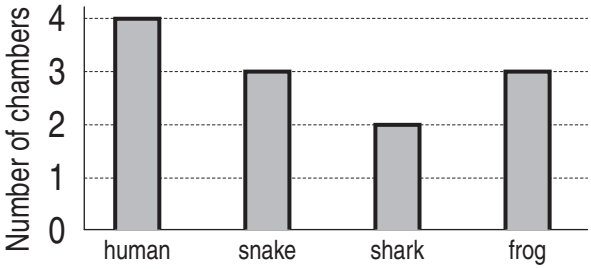
Q. Use the table to complete the graph.

Chambers of the heart

Animal	Number of chambers	Animal	Number of chambers
human	4	shark	2
snake	3	frog	3



A.

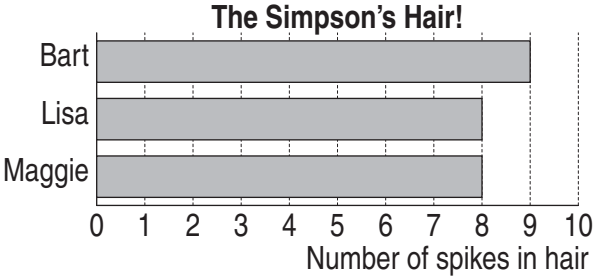


The value of the 'human' category is 4.

Above 'human' draw a bar to the length of 4.

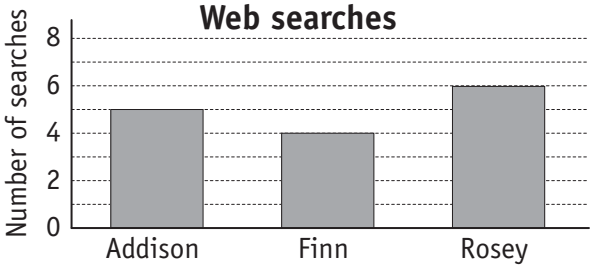
Repeat for all other categories ('snake', 'shark' and 'frog').

a) Use the graph to complete the table.



Simpson	Number of spikes
Bart	9
Lisa	8
Maggie	8

b) Use the graph to complete the table.



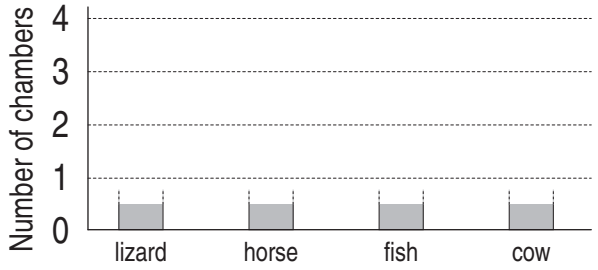
Student	Number
Addison	
Finn	
Rosey	

Skill 18.9 Representing data from tables as bar graphs and data from bar graphs as tables (2).

c) Use the table to complete the graph.

Chambers of the heart

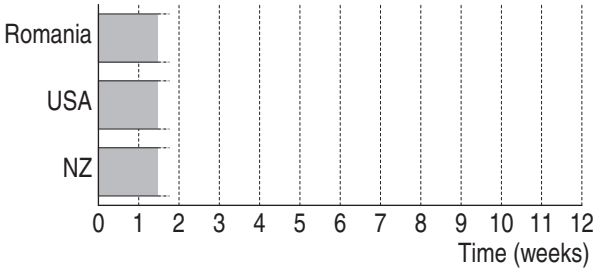
Animal	Number of chambers	Animal	Number of chambers
lizard	3	fish	2
horse	4	cow	4



d) Use the table to complete the graph.

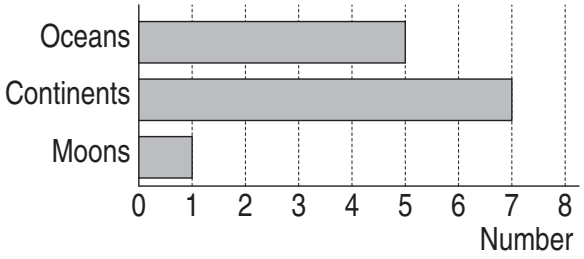
Length of School Summer Holidays

Country	School holiday time
Romania	12 weeks
USA	6 weeks
New Zealand (NZ)	6 weeks



e) Use the graph to complete the table.

Earth features

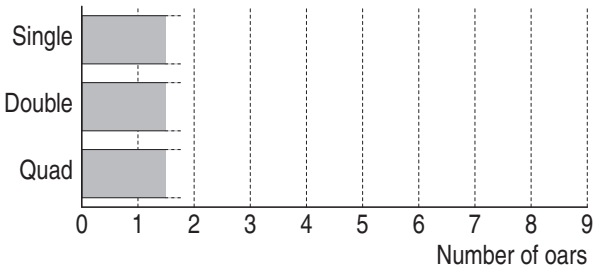


Earth Feature	Number
Oceans	
Continents	
Moons	

f) Use the table to complete the graph.

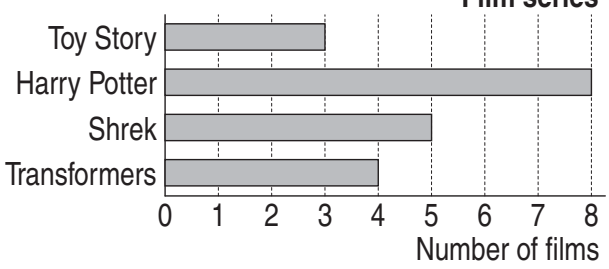
Sculling boats

Type of sculling boat	Number of oars
Single scull	2
Double scull	4
Quad scull	8



g) Use the graph to complete the table.

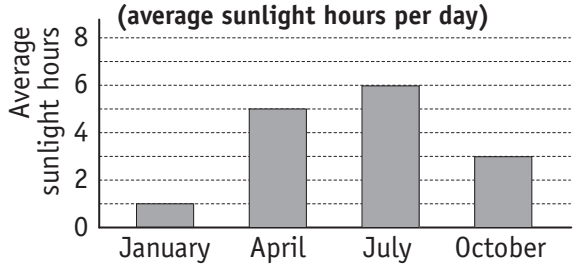
Film series



Film series	Number of films
Toy Story	
Harry Potter	
Shrek	
Transformers	

h) Use the graph to complete the table.

London
(average sunlight hours per day)



Month	Average sunlight hours per day
January	
April	
July	
October	

Skill 18.10 Describing the degree of likelihood of an event.

Hint: Think about the worst possible outcome.

- Add 1 to the worst possible outcome.

Q. The iPod is on shuffle mode. It has 50 songs, 40 of which Mae likes. To how many songs does Mae need to listen, to be certain she hears a song she likes?

A. ***11***

There are 40 songs Mae likes.
There are 10 songs Mae does not like.
The worst that can happen is that Mae hears all 10 songs she does not like first.
So it could be the 11th song Mae listens to that is the first of the ones she likes.
10 + 1 = 11

a) A money bag contains 10 twenty-cent coins and 19 fifty-cent coins. A coin is randomly selected. How many coins do you have to choose to make sure you have a fifty-cent coin? 11

b) Andrew has 7 one-dollar coins and 5 two-dollar coins in his pocket. He picks up a coin without looking. How many coins does Andrew have to pick to make sure he has a one-dollar coin?

c) The iPod is on shuffle mode. It has 30 songs, 25 of which Verve likes. To how many songs does he need to listen, to be certain he hears a song he dislikes?

d) A store has 20 batteries and 6 do not work. How many batteries do you have to check to make sure you have a battery that works?

e) There are 12 pillow cases in our linen cabinet. Four are pink. Mum reaches inside the cabinet in the dark. How many pillow cases does she need to take out to make sure she has two pink ones?

f) There are six pairs of runners in the back of Mike's closet. Because the closet is dark, how many individual runners must he take out of the closet to make sure he has a matching pair of runners?

g) The iPod is on shuffle mode. It has 25 songs, 5 of which Zac does not like. To how many songs does Zac need to listen, to be certain he will hear a song he does not like?

h) A store has 50 boxes of cereal. There is a pedometer in 23 of these boxes. How many boxes do you have to buy to make sure you have a box with a pedometer inside?

Skill 18.11 Measuring the likelihood of an event.

- Count the possibilities that you want (favourable outcomes for the event).
- Count all the possibilities (possible outcomes for the event).
- Compare the results.

Q. Ng's and Xi's birthdays are both in November. What is the chance that their birthdays are on the same day?

A) 15 out of 30
B) 1 out of 30
C) 29 out of 30

A. ***B***

For the birthdays to be on the same day then 1 day is the possibility.

November has 30 days.

So 1 out of 30 days.

a) Rob and five other students are on the sports committee. What is the chance that Rob will be elected as chairperson?

A) 1 out of 6
B) 1 out of 5
C) 5 out of 6

A

b) Jen's grandparents are expected to come for a visit. What is the chance that they will arrive on the weekend?

A) 1 out of 2
B) 5 out of 7
C) 2 out of 7

c) Ben and 11 other athletes are racing in the 800 m event. What is the chance that Ben will win 1 of 3 medals?

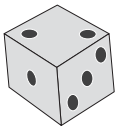
A) 1 out of 11
B) 3 out of 11
C) 3 out of 12

d) Graham bought 5 raffle tickets. If there are 100 tickets altogether, what is the chance that one of his tickets will win?

A) 1 out of 5
B) 5 out of 100
C) 5 out of 95

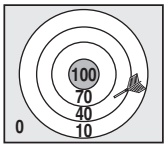
e) A single die is rolled. What is the chance that it will come up a number less than 3?

A) 1 out of 6
B) 2 out of 6
C) 5 out of 6

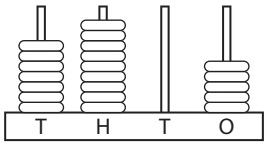
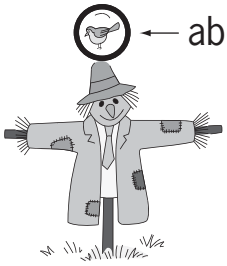
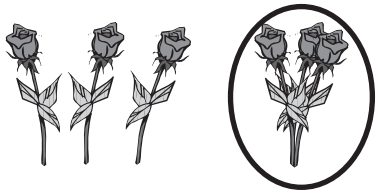
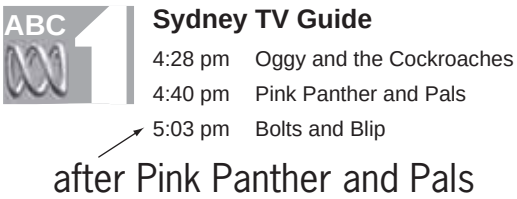
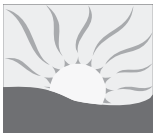
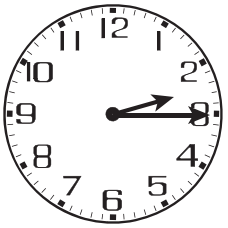


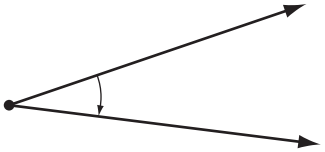
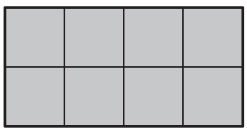
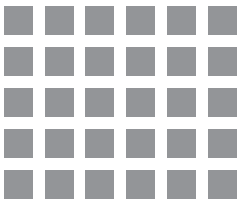
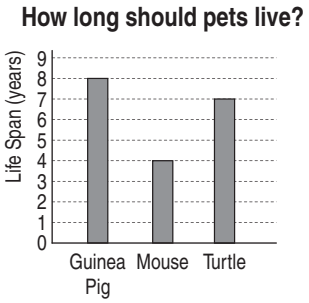
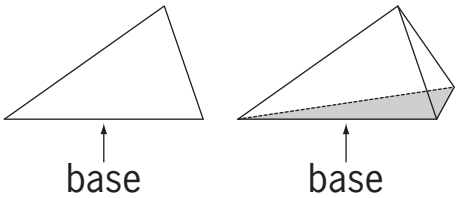
f) A dart is thrown at this board and it hits. What is the chance that it will score a 40?

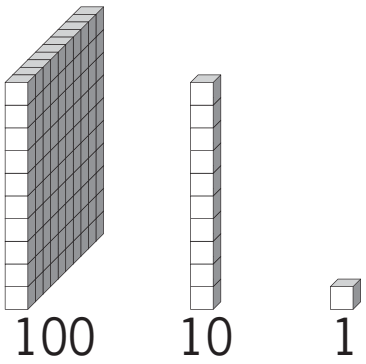
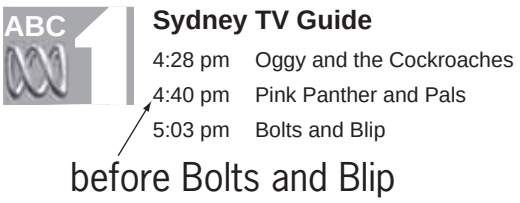
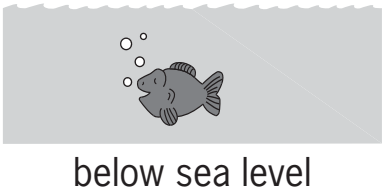
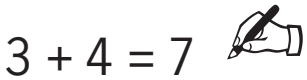
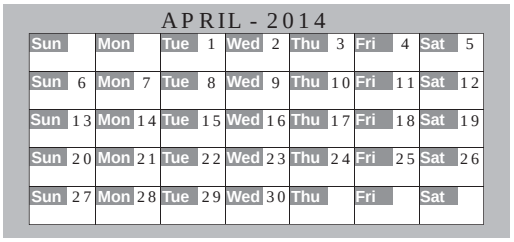
A) 1 out of 4
B) 5 out of 5
C) 1 out of 5

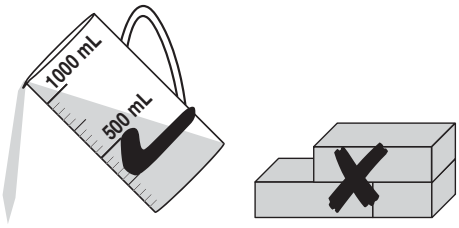
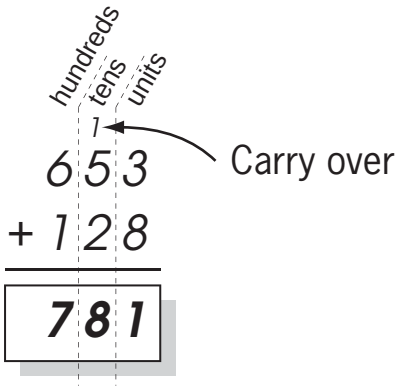
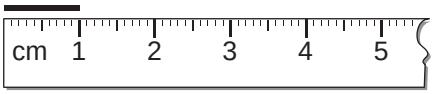
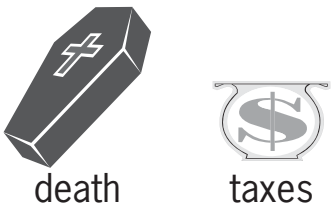


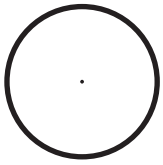
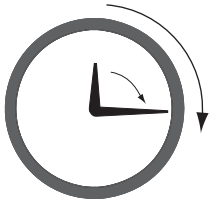
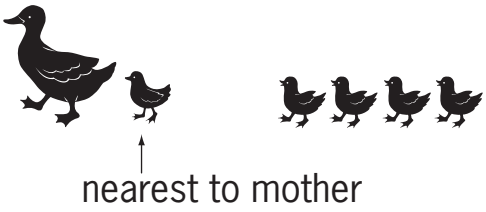
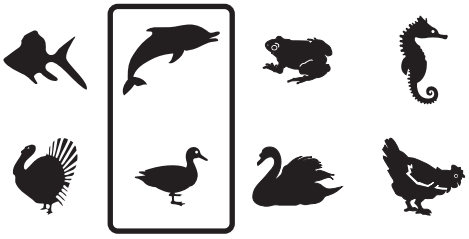
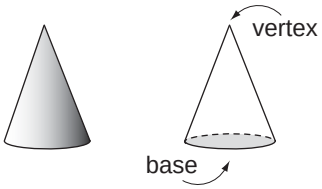
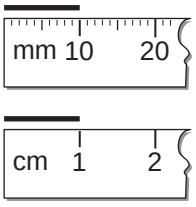
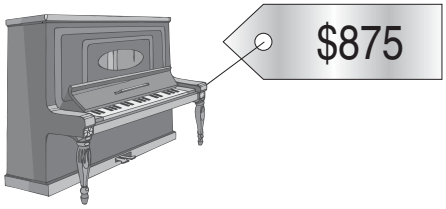
GLOSSARY

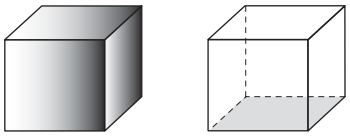
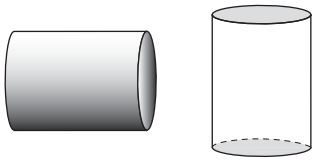
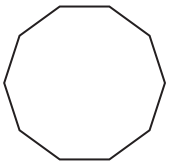
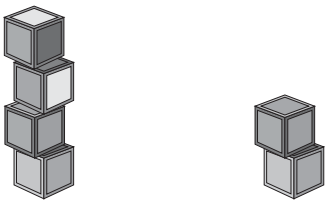
TERMS	DEFINITIONS	EXAMPLES
abacus	• Beads on a frame used for counting and calculating.	
above	• *Higher* than or over the top of an object.	
add (+)	• To join together.	
addition	• Finding the *total* or *sum* of two or more numbers.	4 + 5 = 9
after	• *Forward* in *time*.	
afternoon	• The *time* from 12 noon to 6 *pm*.	
am (**a**nte **m**eridiem)	• The *time* from midnight to midday.	
amount	• How much.	
analogue clock	• A clock that has rotating hands and shows 12 hour *time*.	

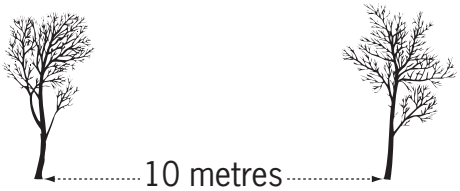
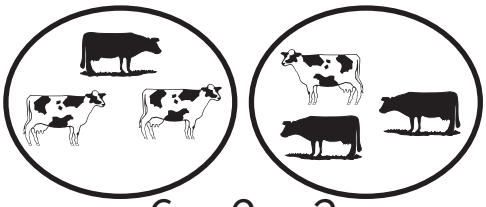
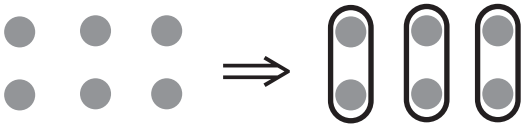
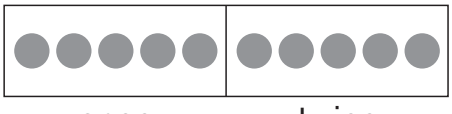
angle	• The *amount* of turning *between* two straight *lines* that are fixed at a point.	
annual	• Happening *once* a *year*.	
area	• The *amount* of surface covered by a *2D shape*.	 Area = 8 squares
array	• Objects arranged in *rows* and *columns*.	
autumn	• March, April and May. The *season after summer*.	
backwards	• In reverse of the usual way. Away from your *front*.	10, 9, 8, 7, 6, 5 ....
bar graph	• Uses bars to show quantities or numbers so they can be easily compared.	
base	• A *line* or surface on which a *shape* stands.	

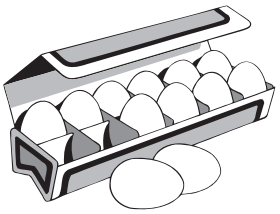
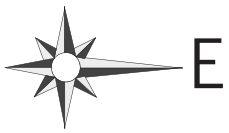
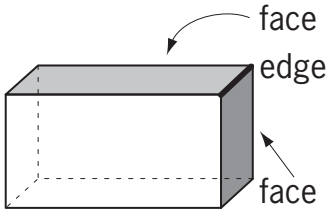
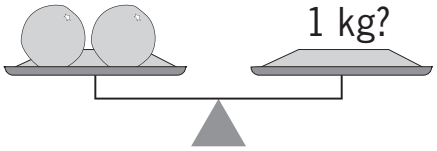
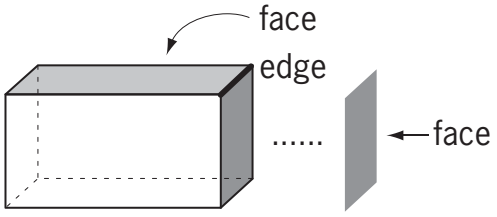
base 10 blocks	• Blocks that show base 10 values.	
before	• *Backward* in *time*.	
behind	• A *position* at the back.	
below	• Lower than or underneath an object.	
between	• At a place bounded by two or more places.	
biggest	• The *largest*.	
calculate	• To work something out.	
calendar	• A *time* chart that tells us what *day*, *week*, *month* and *year* it is.	

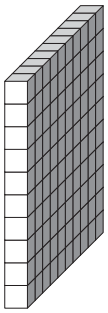
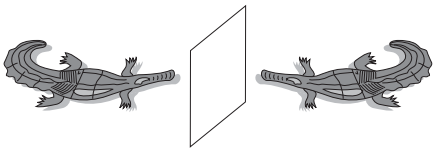
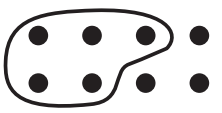
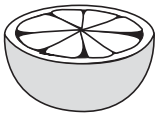
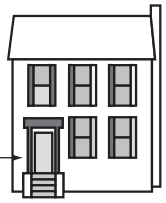
capacity	• Or *volume*, is the measure of the *amount* of liquid a container can hold.	
carry over	• The *amount* passed to the next *place value* in an algorithm.	
cent (¢)	• The *smallest unit* of money. 100 cents = 1 *dollar*	
centimetre	• A *unit* of *length.* 1 centimetre = 10 *millimetres*.	
certain	• Being sure. • Will definitely happen.	
chance	• The possibility of getting a particular result.	 1 out of 6 chances to throw a 2.
change (money)	• The leftover money you are given back after buying something.	

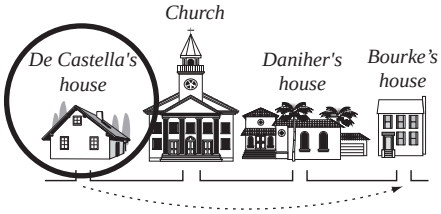
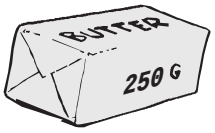
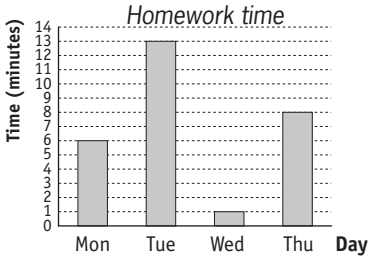
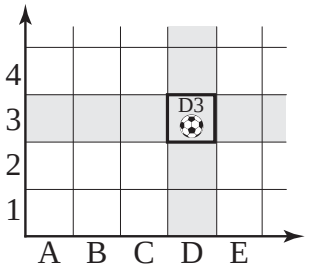
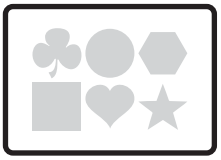
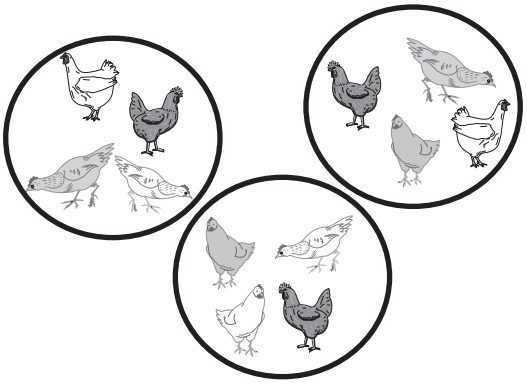
circle	• A *2D shape* bounded by a *line* that is always the same *distance* from the *middle* point (centre).	
clockwise	• Moving in the *direction* of the hands on a clock.	
closest	• Nearest to.	
column	• A *vertical line* in an *array* or *table*.	
compass	• An instrument that shows *direction*.	
cone	• A *3D shape* with one circular *base* and one *vertex*.	
convert	• Change from one *unit* to another.	
cost (money)	• The *amount* you pay to buy something.	

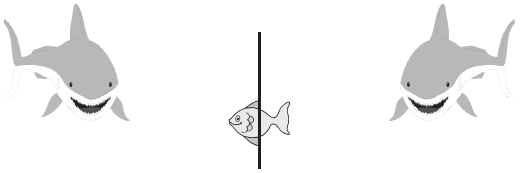
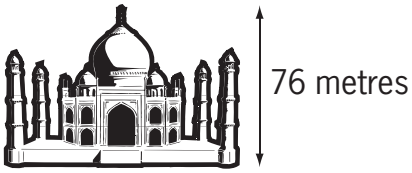
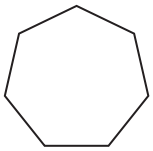
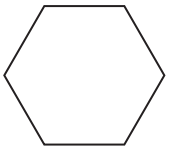
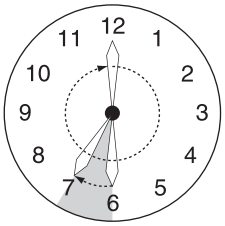
counting numbers	• A *whole number* from 1 to .... forever (infinity).	1, 2, 3, 4, 5 ....
cube	• A *3D shape* with six identical *square* faces.	
curved line	• A *line* that is not straight.	
cylinder	• A *3D shape* with two circular ends of the same size.	
date (time)	• Tells us the *day*, *month* and *year*.	7th June 2021 7/6/2021
day	• A *unit* of *time* equal to 24 *hours*. A day starts and ends at midnight.	
decagon	• A *2D shape* with 10 *sides*.	
decrease	• To make smaller.	
difference	• The result when a number is *subtracted* from another number. • The *amount* by which one number is bigger or smaller than another number.	5 – 3 = 2
digit	• Any of the first ten *whole numbers* from 0 to 9.	0, 1, 2, 3, 4, 5, 6, 7, 8 and 9

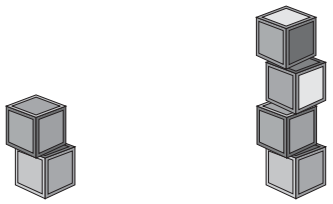
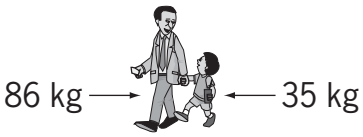
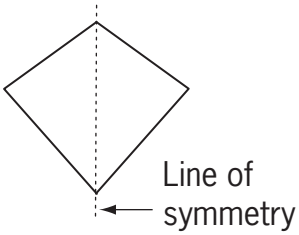
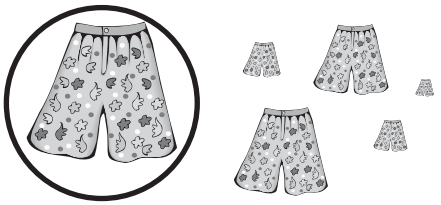
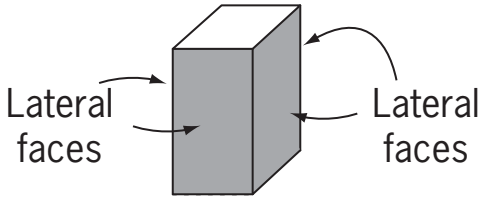
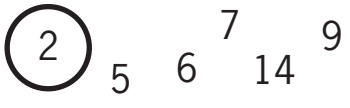
digital clock	• A clock that uses only numbers to show the *time*. (No hands!)	
digital time	• The *time* shown in numbers.	12 : 25 : 53 hours minutes seconds
direction	• The way something is pointing or going.	north, up left, west east, right south, down
distance	• The *length between* two points.	
divide (÷)	• To *share* into *equal groups*.	 6 ÷ 2 = 3
division	• The *operation* of sharing or grouping a number into *equal* parts.	
dollar ($)	• A *unit* of money. 1 dollar = 100 *cents*	 5 dollars  10 dollars  20 dollars  50 dollars  100 dollars
double	• *Twice* as much. • *Multiplied* by two.	 once twice

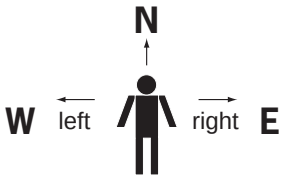
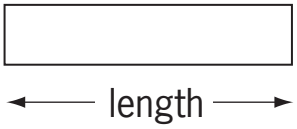
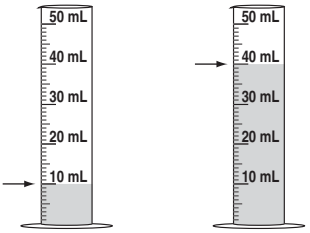
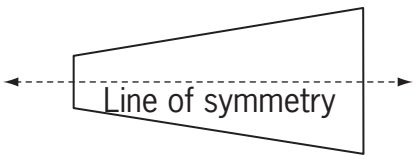
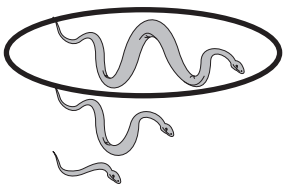
dozen	• Twelve.	
east	• A compass *direction.*	
edge	• Where two *faces of a 3D shape* meet.	
eighth	• The *position* after *seventh.*	1st, 2nd, 3rd, 4th, 5th, 6th, 7th, **8th** ...
equal (=)	• Exactly the same in *value* or *size*.	
estimate	• To make a close guess.	
even number	• A *whole number* that can be *divided* by two. • Even numbers end with 0, 2, 4, 6 or 8.	
expanded notation	• A way of writing a number to show the *value* of each *digit*.	123 = 100 + 20 + 3
face of a 3D shape	• *2D shapes* that join on their *edges* to form a *3D shape*.	

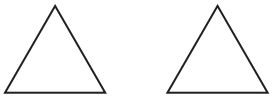
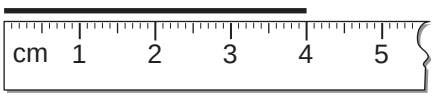
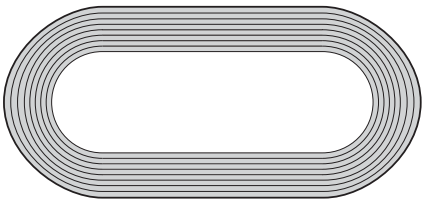
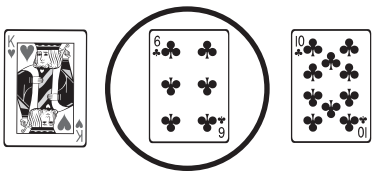
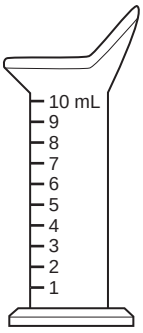
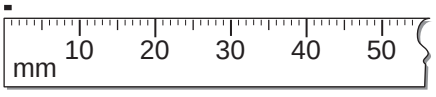
fifth	• The *position* after *fourth.*	1st, 2nd, 3rd, 4th, **5th** ...
first	• Placed *before* anything else.	
flat	• *Base 10 block* of 100 (10 × 10).	 100
flip	• To turn across a *line* so the result is a mirror image.	
fortnight	• A *unit* of *time* equal to 2 *whole weeks* or 14 *days*.	
forwards	• In the *direction* of your *front*.	1, 2, 3, 4, 5, ...
fourth	• The position after *third.*	1st, 2nd, 3rd, **4th** ...
fraction	• Part of a *group*. • Part of a *whole*.	 $\frac{5}{8}$  $\frac{1}{2}$
front	• The *side* of an object that is usually seen *first*.	front door → 

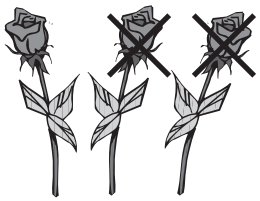
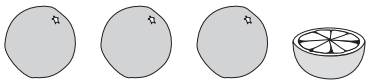
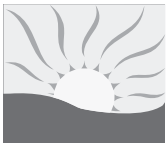
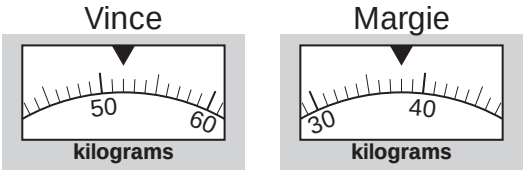
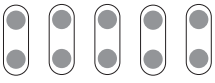
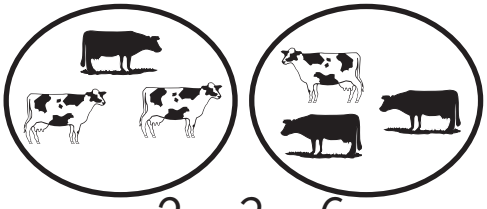
furthest	• The *longest* way away.	
gram (g)	• A *unit* of *weight*. 1000 grams = 1 *kilogram*	
graph	• A diagram that shows a collection of information.	
greater than (>)	• A symbol showing which is bigger.	10 > 2 means that 10 is greater than 2.
greatest	• The *biggest*.	10 5 1 7 9 3
grid reference	• A *pair* of letters and/or numbers that describe *location* within a grid.	
group	• To join together in a collection.	
groups of	• Collections of things.	

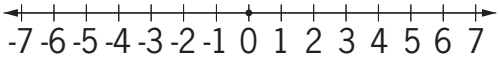
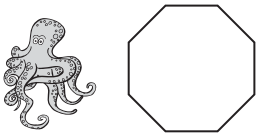
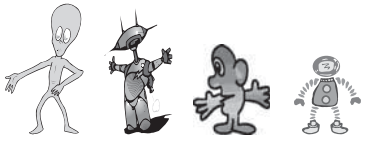
half	• (pl. **halves**) One of two *equal* parts expressed as a *fraction*.	
halfway	• In the *middle*, *between* 2 points.	
height	• The vertical *distance* from top to bottom.	
heptagon	• A *2D shape* with 7 *sides*.	
hexagon	• A *2D shape* with 6 *sides*.	
horizontal line	• The same direction as the horizon.	
hour (h)	• A *unit* of *time*. 1 hour = 60 *minutes*	
hundreds	• The *place value between tens* and *thousands*.	Place Thousands | Hundreds | Tens | Ones *3* | *4* | *2* | *0* Value *3000* | *400* | *20* | *0*
impossible	• Cannot happen.	 Christmas Day - 4th of April?????

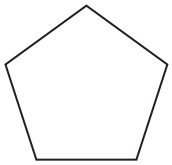
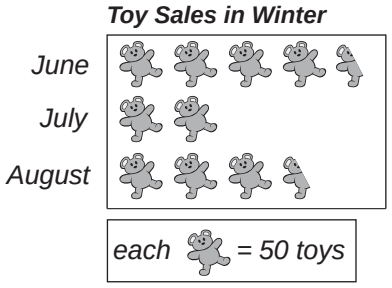
increase	• To make larger or grow in *size*.	
key (maps)	• The information needed to read a *map*, *graph* or diagram.	
kilogram (kg)	• A *unit* of *weight.* 1 kilogram = 1000 *grams*	
kilometre (km)	• A *unit* of *distance.* 1 kilometre = 1000 *metres*	
kite	• A special *2D shape* with 4 *sides*. One *line of symmetry*.	
largest	• The *biggest*.	
largest to smallest	• Ranking in order from the *greatest* to *least*.	
lateral faces	• The vertical surfaces on a *3D shape*.	
leap year	• A *year* with 366 *days* that falls every *fourth* year and includes the 29th of February as the extra day.	2016 is a leap year.
least	• The *smallest*.	

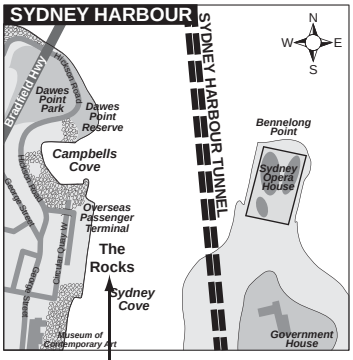
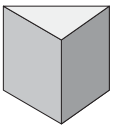
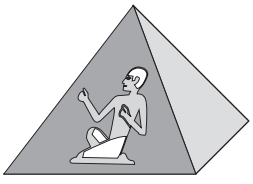
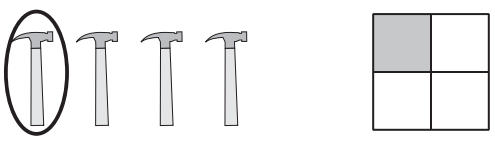
left	• The *direction* to the *west* of your body if you are facing *north*.	
length	• The *distance* from one end to the other. • How long a shape is.	
lesser	• Not as many as another.	
less than (<)	• A symbol showing which is smaller.	$2 < 10$ means that 2 is less than 10.
likely	• Will probably happen.	 It is likely to spin a Z.
line	• A continuous narrow mark.	
line of symmetry	• A *line* that *divides* a *shape* so that one *side* is a mirror image of the other. Both sides match exactly when folded.	
litre (L)	• A *unit* of *capacity.* 1 litre = 1000 *millilitres*	
location	• The exact place, where something is situated.	
longest	• Having the *biggest length*.	

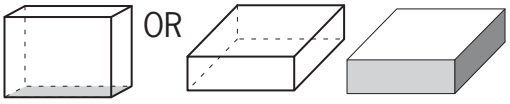
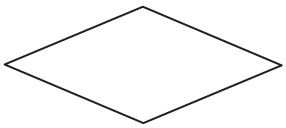
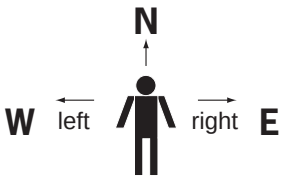
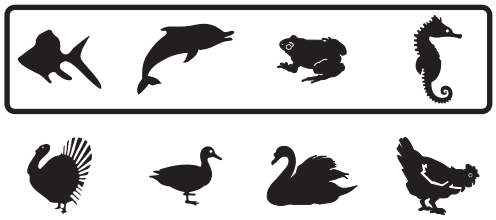
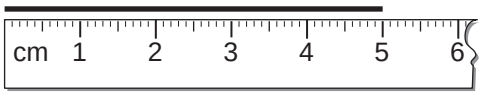
longs	• *Base 10 block* of 10 (1 × 10).	 10
map	• A diagram of a region showing its *position* in the world.	South Pacific 
match	• Put with an identical object.	
measure	• To work out the *size* or *amount*.	
metre (m)	• A *unit* of *length.* 1 metre = 100 *centimetres*	 Standard 400 metre athletics track
middle	• A point *halfway between*. In the centre.	
millilitre (mL)	• A *unit* of *capacity.* 1000 millilitres = 1 *litre*	
millimetre (mm)	• A *unit* of *length*. 10 millimetres = 1 *centimetre*	

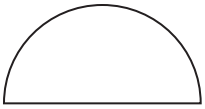
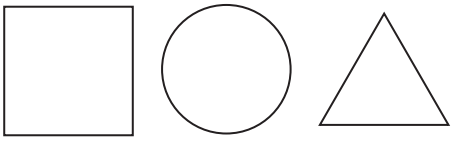
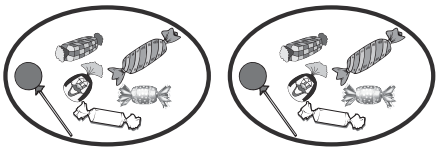
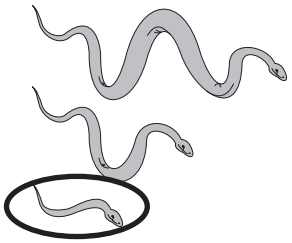
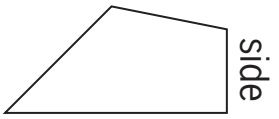
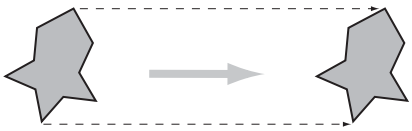
minis	• *Base 10 block* of one (1).	 1
minus (–)	• Another word for *subtract*. To *take away*.	 3 – 2 = 1
minute (min)	• A *unit* of *time*. 1 minute = 60 *seconds*	5:20 ⟶ 5:21
mixed number	• The *sum* of a *whole number* and a *fraction less than* one.	$3\frac{1}{2}$ 
month	• A *unit* of *time*. • A month *is equal* to 28, 29, 30 or 31 *days*.	
morning	• The early part of the *day* ending at 12 noon.	
most	• The *greatest* amount.	 Vince weighs the most.
multiplication	• An *operation* where a number is *added* to itself a number of times.	2 × 5 = 10  2 + 2 + 2 + 2 + 2 = 10
multiply (×)	• To find the *total* of a number of identical *groups*.	 2 × 3 = 6
ninth	• The *position* after *eighth*.	1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, **9th** ...

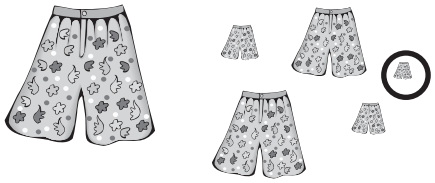
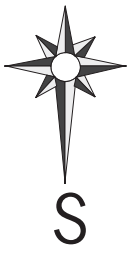
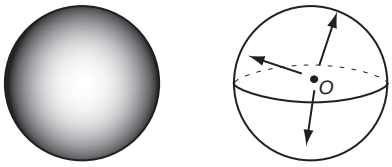
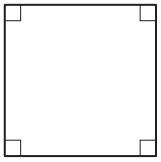
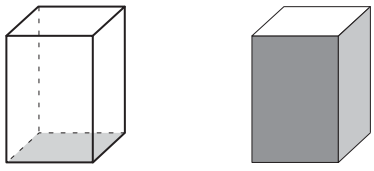
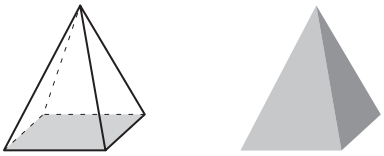
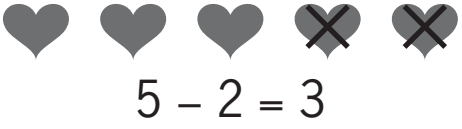
none	• *Zero*.	no picture
north	• A compass *direction.*	
number line	• An evenly marked *line* that shows the *position* of numbers.	
numeral	• A symbol used to represent a number.	Arabic numerals: 1, 2, 3, 4, 5 ... Roman numerals: I, II, III, IV, V ...
octagon	• A *polygon* with 8 *sides*.	
odd number	• A *whole number* that cannot be *divided* by 2. • Odd numbers end with 1, 3, 5, 7 or 9.	odd: 431 ✔ odd: 134 ✘
once	• On one occasion.	Just this time!
ones	• The *place value before tens.*	Place: Thousands 3, Hundreds 4, Tens 2, Ones 0 Value: 3000, 400, 20, 0
opposite	• The equivalent *position* but on the other side.	← left right →
order	• Placing a *group* in a special arrangement.	 tallest to shortest

outcome	• Possible result of a probability experiment.	 throw a die - 1, 2, 3, 4, 5 or 6 6 outcomes
pair	• Two together.	
parallelogram	• A special *2D shape* with 4 *sides*. *Opposite* sides are *equal* in *length*. *Opposite angles* are *equal*.	
pattern	• Numbers or objects that are arranged following a rule.	
pentagon	• A *2D shape* with 5 *sides*.	
per	• For each. • Can be written as a forward slash (/).	 One ticket per person
pictograph	• A *graph* that uses pictures or symbols to represent information.	 *Toy Sales in Winter* *June* *July* *August* *each* = 50 toys
place value	• *Value* according to *position* in a number.	Place Thousands | Hundreds | Tens | Ones 3 | 4 | 2 | 0 Value 3000 | 400 | 20 | 0

plus (+)	• Another word for *addition*. To *add*.	 plus 2 + 3 = 5
pm **(p**ost **m**eridiem**)**	• The *time* from midday to midnight.	
position	• Where something is in relation to things around it.	 position of 'The Rocks'
possible	• Can happen.	 landing on a head
prism	• A *3D shape*. Two *bases* are the same size.	
pyramid	• A *3D* shape. All *lateral faces* are *triangles* that meet at one point called *vertex*. A pyramid is named for the *shape* of its *base*.	
quadrilateral	• A *2D shape* with 4 *sides*.	
quarter	• One of four equal parts of a *group* or object. • Written as the *fraction* $\frac{1}{4}$.	

rectangle	• A special *2D shape* with 4 *sides*. *Opposite* sides are *equal* in *length*. All *angles* are *right angles*.	
rectangular prism	• A *3D shape* with 6 rectangular *faces*.	
rhombus	• A special *2D shape* with 4 *equal sides*. *Opposite angles* are *equal*.	
right	• The *direction* to the *east* of your body if you are facing *north*.	
right angle	• An *angle* measuring exactly 90°. It is marked with a corner.	
Roman numerals	• *Numeral* system invented by the ancient Romans.	I = 1 V = 5 X = 10 L = 50 C = 100 D = 500 M = 1000
row	• A *horizontal line* in an *array* or *table*.	
ruler	• An instrument for measuring *length*.	
scale	• Set of marks on a *line*.	
season	• There are 4 seasons: *Summer*, *Autumn*, *Winter*, *Spring*. • A *length* of *time* lasting 3 *months*.	**Summer**: December, January, February **Autumn**: March, April, May **Winter**: June, July, August **Spring**: September, October, November

second (s)	• A very short *unit* of *time*. 60 seconds = 1 *minute*	5:20:13 ⟶ 5:20:14
second	• The *position* after *first.*	1st, **2nd** ...
semicircle	• A half *circle*.	
seventh	• The *position* after *sixth.*	1st, 2nd, 3rd, 4th, 5th, 6th, **7th** ...
shape	• The outline of an *area*.	
sharing	• Putting into equal *groups* or parts.	
shortest	• Having the *smallest length*.	
side	• One of the *lines* that form a *2D shape*.	
sixth	• The *position* after *fifth.*	1st, 2nd, 3rd, 4th, 5th, **6th** ...
size	• How big an object is.	
skip counting	• *Counting* by missing numbers following a certain *pattern*.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
slide	• Move without changing *direction*.	

smallest	• The *least size*.	
smallest to largest	• Ranking in order from the *least* to the *greatest*.	
south	• A compass *direction.*	
sphere	• A set of *points* in space of *equal distance* from the central point.	
spring	• September, October and November. The *season after winter*.	
square	• A special *rectangle* with all *sides* of *equal length*.	
square prism	• A *3D shape*. Two identical square *bases*. All the other *faces* are *rectangles.*	
square pyramid	• A *3D shape*. One square *base*. All the other *faces* are *triangles*.	
straight line	• A continuous narrow mark.	
subtract	• To *take away* or *minus*.	

sum

• The result when two or more numbers are *added*.

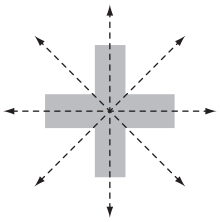
2 + 3 = 5

summer

• December, January, February.
The *season after spring*.

symmetry

• When one *side* of a *shape* is the mirror image of the other.



Lines of symmetry

table

• Information organised in *columns* and *rows*.

Netball: Aust v NZ

NZ / Quarters	Shooting chances	Actual goals
1st	9	9
2nd	14	13
3rd	23	20
4th	18	17

take away

• To *subtract* or *minus*.

5 – 2 = 3

tally marks

• Marks used to help when counting large numbers.
Drawn in bundles of 5.

𝍸 𝍸 𝍸 III = 18

tally table

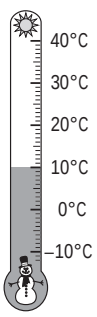
• Information represented in *columns* and *rows* using *tally marks* to count *totals*.

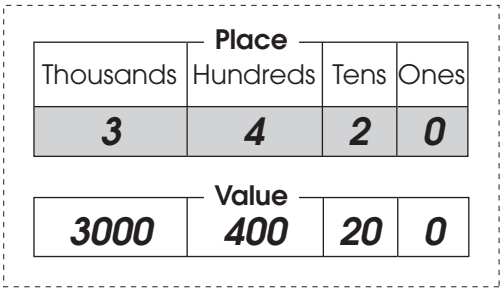
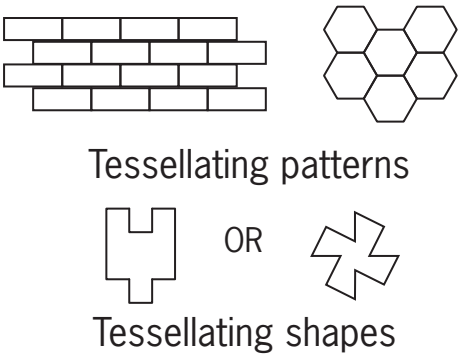
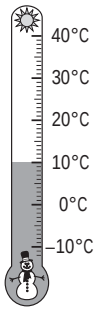
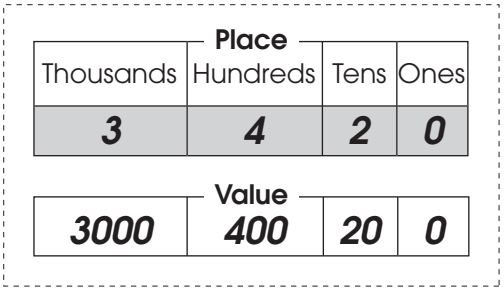
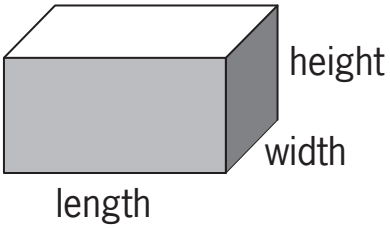
Lighthouse Survey

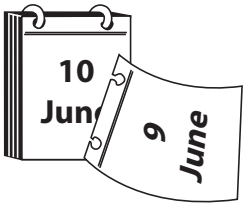
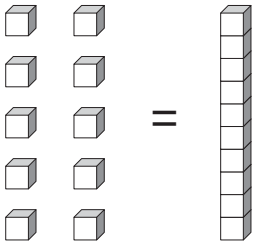
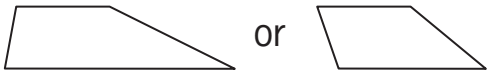
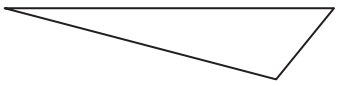
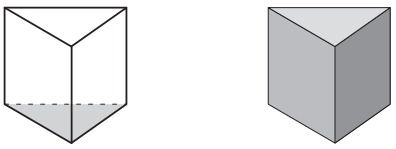
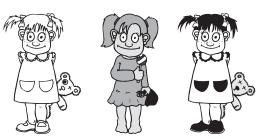
States	Tally	Number
Hawaii	𝍸 IIII	9
Maryland	𝍸	5
Virginia	III	3
Rhode Island	IIII	4

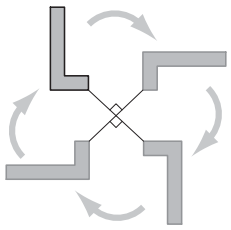
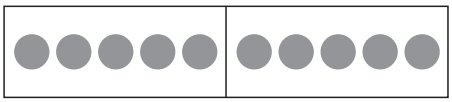
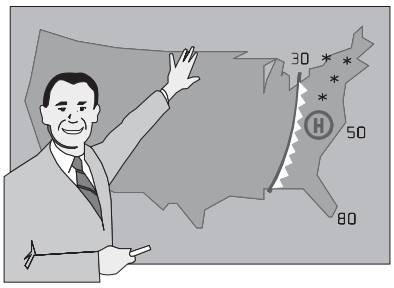
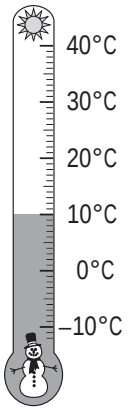
temperature

• How hot or cold a thing is.
• Temperature is measured in degrees Celsius (°C) with a *thermometer*.



tens	• The *place value between* the *ones* and *hundreds*.	
tesselate	• A repeated *shape* covering a large *area* with no gaps and no overlaps. Example: Brick wall, tiled floor	
thermometer	• An instrument used to *measure temperature*.	
third	• The *position* after *second.*	1st, 2nd, **3rd** ...
thousands	• The *place value between hundreds* and tens of thousands.	
three dimensional (3D)	• Able to be measured in three *directions* namely *length*, *width* and *height*.	
time	• The progression from past to present to future.	

today	• This *day*.	 Today is the 10th of June.
tomorrow	• The *day after today*.	 Tomorrow is the 11th of June.
total	• The *whole* lot. • The *sum* of two or more quantities.	4 + 5 = 9
trade	• 10 *minis* make 1 *long*.	
trapezium	• A special *2D shape.* • Two *opposite sides* are *parallel.*	
trial and error	• To try repeatedly and learn from mistakes.	
triangle	• A *2D shape* with 3 *sides*.	
triangular prism	• A *3D shape*. Two identical triangular *bases*. All the other *faces* are *rectangles.*	
triple	• *Multiply* by three.	 Children × 3 = triplets!

turn	• To *rotate* about a point.	
twenty-four hour time	• Time told in 24 hour lots using 4 *digits*.	Nine thirty am is 9:30 or 0930 Two thirty pm is 14:30 or1430
twice	• Two times.	 once twice
two dimensional (2D)	• Able to be measured in 2 *directions* (*length* and *width*).	 width length
uncertain	• Not sure it will happen.	 It will rain tomorrow?
unit	• Another name for one. • The *smallest value between* two marks on a *scale*.	
units	• The *place value before tens*. Also called *ones*.	Place Thousands | Hundreds | Tens | Units 3 | 4 | 2 | 0 Value 3000 | 400 | 20 | 0

units of measurement

• Standard *amount* or quantity.

Unit	Abbreviation	Examples	Used for measuring ...
• millimetre	mm	thickness of a plank of wood	LENGTH **distance** - length, width, height
• centimetre	cm	width of a photo frame	
• metre	m	length of a lap of a stadium	
• kilometre	km	distance between two cities	
• gram	g	weight of an egg	MASS **weight** - people, animals, objects
• kilogram	kg	weight of a bag of apples	
• millilitre	mL	liquid in a glass	CAPACITY **quantity** - liquids
• litre	L	liquid in a bucket	

unlikely

• Probably will not happen.

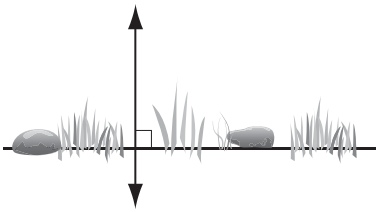
value

• The *amount* of worth.

5 cents

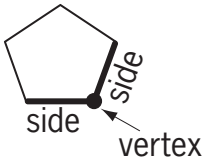
vertical line

• A l*ine* at *right angles* to the horizon.

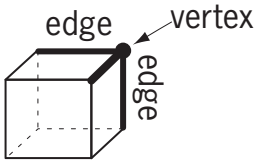


vertex

• (pl. **vertices**) The point at which two *sides* (of a *2D shape*) or three *edges* (of a *3D shape*) meet.



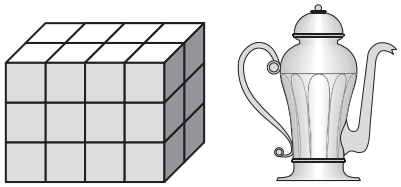
2D shape

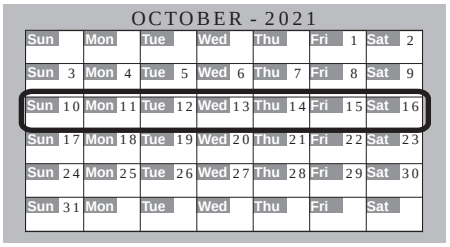
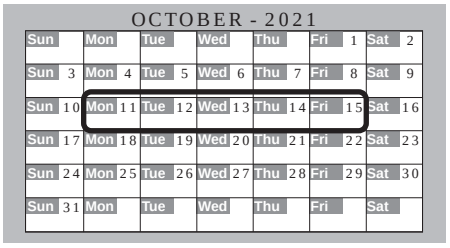
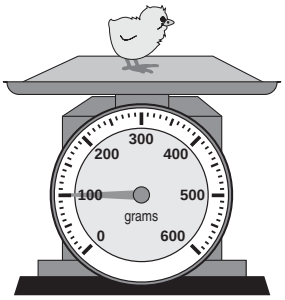
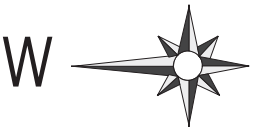
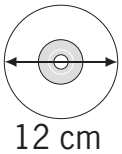
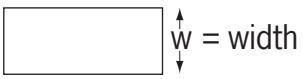


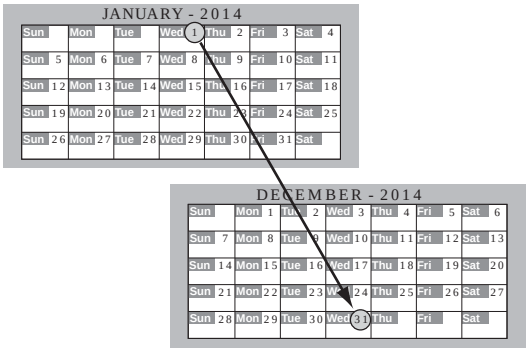
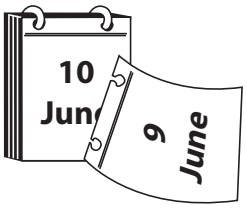
3D shape

volume

• The *amount* of space that a *3D shape* occupies.



week	• A *unit* of *time* equal to 7 *days*: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday.	
weekday	• One of 5 *days*: Monday, Tuesday, Wednesday, Thursday or Friday. • The working days of the week.	
weekend	• Saturday and Sunday.	
weight	• The heaviness of an object.	
west	• A compass *direction.*	
whole	• All of something.	 1 whole lemon
whole numbers	• *Zero* and the *counting numbers* from one to .... forever (infinity).	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, ...
width	• How wide an object is. The sideways dimension.	 12 cm 

winter	• June, July, August. The *season after autumn*.	
year	• A *unit* of *time* equal to 365 *days*. (366 in a *leap year*).	
yesterday	• The *day before today*.	 Yesterday was the 9th of June.
zero	• Nothing, nought, nil.	

MATHS FACTS

SYMBOLS


plus or add


minus or subtract


times or multiply


divide


equal to


less than, $4 < 6$


greater than, $8 > 5$


fraction, one half

ABBREVIATIONS

am	anti meridiem (morning)
pm	post meridiem (afternoon, evening)
$	dollar
¢	cent
mm	millimetre
cm	centimetre
m	metre
km	kilometre
g	gram
kg	kilogram
mL	millilitre
L	litre
s	second
min	minute
h	hour

CONVERSIONS

Length

10 millimetres (mm) = 1 centimetre (cm)

100 cm =
1000 mm = } 1 metre (m)

1000 m = 1 kilometre (km)

Capacity

1000 millilitre (mL) = 1 litre (L)

Mass

1000 g = 1 kilogram (kg)

Time

60 seconds (s) = 1 minute (min)

60 minutes (min) = 1 hour (h)

24 hours (h) = 1 day

7 days = 1 week

2 weeks = 1 fortnight

4 weeks (approx.) = 1 month

365 =
52 weeks (approx.) = } 1 year
12 months =

NUMBERS 1 TO 20

1	one	
2	two	
3	three	
4	four	
5	five	
6	six	
7	seven	
8	eight	
9	nine	
10	ten	
11	eleven	
12	twelve	
13	thirteen	
14	fourteen	
15	fifteen	
16	sixteen	
17	seventeen	
18	eighteen	
19	nineteen	
20	twenty	

EVEN NUMBERS FROM 1 TO 100

- end with **2**, **4**, **6**, **8** or **0**

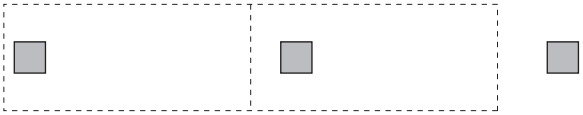
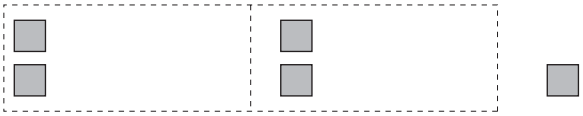
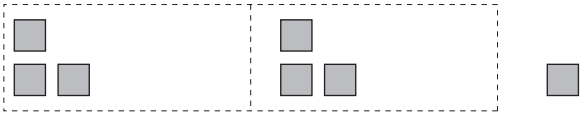
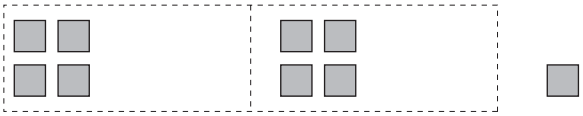
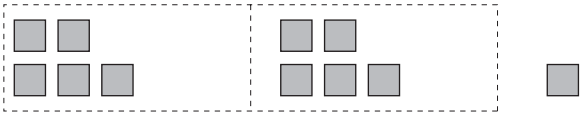
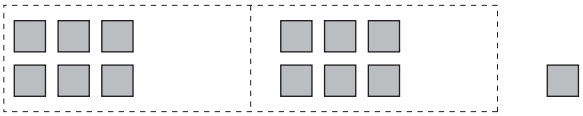
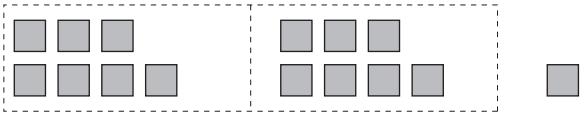
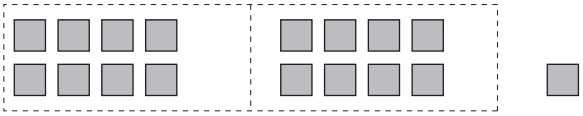
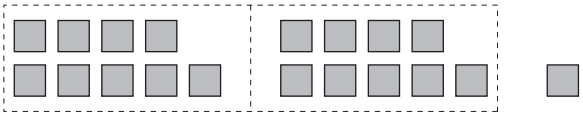
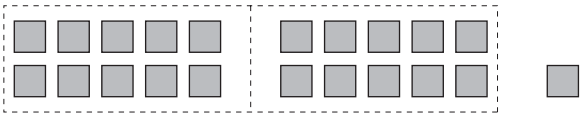
1	**2**	3	**4**	5	**6**	7	**8**	9	**10**
11	**12**	13	**14**	15	**16**	17	**18**	19	**20**
21	**22**	23	**24**	25	**26**	27	**28**	29	**30**
31	**32**	33	**34**	35	**36**	37	**38**	39	**40**
41	**42**	43	**44**	45	**46**	47	**48**	49	**50**
51	**52**	53	**54**	55	**56**	57	**58**	59	**60**
61	**62**	63	**64**	65	**66**	67	**68**	69	**70**
71	**72**	73	**74**	75	**76**	77	**78**	79	**80**
81	**82**	83	**84**	85	**86**	87	**88**	89	**90**
91	**92**	93	**94**	95	**96**	97	**98**	99	**100**

ODD NUMBERS FROM 1 TO 100

- end with **1**, **3**, **5**, **7** or **9**

1	2	**3**	4	**5**	6	**7**	8	**9**	10
11	12	**13**	14	**15**	16	**17**	18	**19**	20
21	22	**23**	24	**25**	26	**27**	28	**29**	30
31	32	**33**	34	**35**	36	**37**	38	**39**	40
41	42	**43**	44	**45**	46	**47**	48	**49**	50
51	52	**53**	54	**55**	56	**57**	58	**59**	60
61	62	**63**	64	**65**	66	**67**	68	**69**	70
71	72	**73**	74	**75**	76	**77**	78	**79**	80
81	82	**83**	84	**85**	86	**87**	88	**89**	90
91	92	**93**	94	**95**	96	**97**	98	**99**	100

DOUBLES AND NEAR DOUBLES

DOUBLES		NEAR DOUBLES
1 + 1 = 2		1 + 2 = 3
2 + 2 = 4		2 + 3 = 5
3 + 3 = 6		3 + 4 = 7
4 + 4 = 8		4 + 5 = 9
5 + 5 = 10		5 + 6 = 11
6 + 6 = 12		6 + 7 = 13
7 + 7 = 14		7 + 8 = 15
8 + 8 = 16		8 + 9 = 17
9 + 9 = 18		9 + 10 = 19
10 + 10 = 20		10 + 11 = 21

SKIP COUNTING BY 2

2, 4, 6, 8, 10
12, 14**, 16,** 18**,** 20

1	**2**	3	**4**	5	**6**	7	**8**	9	**10**
11	**12**	13	**14**	15	**16**	17	**18**	19	**20**
21	**22**	23	**24**	25	**26**	27	**28**	29	**30**
31	**32**	33	**34**	35	**36**	37	**38**	39	**40**
41	**42**	43	**44**	45	**46**	47	**48**	49	**50**
51	**52**	53	**54**	55	**56**	57	**58**	59	**60**
61	**62**	63	**64**	65	**66**	67	**68**	69	**70**
71	**72**	73	**74**	75	**76**	77	**78**	79	**80**
81	**82**	83	**84**	85	**86**	87	**88**	89	**90**
91	**92**	93	**94**	95	**96**	97	**98**	99	**100**

SKIP COUNTING BY 4

4, 8, 12**,** 16**,** 20
24, 28**,** 32**,** 36**,** 40

1	2	3	**4**	5	6	7	**8**	9	10
11	**12**	13	14	15	**16**	17	18	19	**20**
21	22	23	**24**	25	26	27	**28**	29	30
31	**32**	33	34	35	**36**	37	38	39	**40**
41	42	43	**44**	45	46	47	**48**	49	50
51	**52**	53	54	55	**56**	57	58	59	**60**
61	62	63	**64**	65	66	67	**68**	69	70
71	**72**	73	74	75	**76**	77	78	79	**80**
81	82	83	**84**	85	86	87	**88**	89	90
91	**92**	93	94	95	**96**	97	98	99	**100**

SKIP COUNTING BY 3

3, 6, 9, 12, 15, 18, 21, 24, 27, 30

1	2	**3**	4	5	**6**	7	8	**9**	10
11	**12**	13	14	**15**	16	17	**18**	19	20
21	22	23	**24**	25	26	**27**	28	29	**30**
31	32	**33**	34	35	**36**	37	38	**39**	40
41	**42**	43	44	**45**	46	47	**48**	49	50
51	52	53	**54**	55	56	**57**	58	59	**60**
61	62	**63**	64	65	**66**	67	68	**69**	70
71	**72**	73	74	**75**	76	77	**78**	79	80
81	82	83	**84**	85	86	**87**	88	89	**90**
91	92	**93**	94	95	**96**	97	98	**99**	100

SKIP COUNTING BY 6

6, 12**,** 18**,** 24**,** 30
36, 42**,** 48**,** 54**,** 60

1	2	3	4	5	**6**	7	8	9	10
11	**12**	13	14	15	16	17	**18**	19	20
21	22	23	**24**	25	26	27	28	29	**30**
31	32	33	34	35	**36**	37	38	39	40
41	**42**	43	44	45	46	47	**48**	49	50
51	52	53	**54**	55	56	57	58	59	**60**
61	62	63	64	65	**66**	67	68	69	70
71	**72**	73	74	75	76	77	**78**	79	80
81	82	83	**84**	85	86	87	88	89	**90**
91	92	93	94	95	**96**	97	98	99	100

SKIP COUNTING BY 5

5, 10, 15, 20
25, 30, 35, 40
45, 50

1	2	3	4	**5**	6	7	8	9	**10**
11	12	13	14	**15**	16	17	18	19	**20**
21	22	23	24	**25**	26	27	28	29	**30**
31	32	33	34	**35**	36	37	38	39	**40**
41	42	43	44	**45**	46	47	48	49	**50**
51	52	53	54	**55**	56	57	58	59	**60**
61	62	63	64	**65**	66	67	68	69	**70**
71	72	73	74	**75**	76	77	78	79	**80**
81	82	83	84	**85**	86	87	88	89	**90**
91	92	93	94	**95**	96	97	98	99	**100**

SKIP COUNTING BY 10

10, 20, 30, 40, 50, 60, 70, 80, 90, 100

1	2	3	4	5	6	7	8	9	**10**
11	12	13	14	15	16	17	18	19	**20**
21	22	23	24	25	26	27	28	29	**30**
31	32	33	34	35	36	37	38	39	**40**
41	42	43	44	45	46	47	48	49	**50**
51	52	53	54	55	56	57	58	59	**60**
61	62	63	64	65	66	67	68	69	**70**
71	72	73	74	75	76	77	78	79	**80**
81	82	83	84	85	86	87	88	89	**90**
91	92	93	94	95	96	97	98	99	**100**

SKIP COUNTING BY 7

7, 14, 21, 28, 35, 42, 49, 56, 63, 70

1	2	3	4	5	6	**7**	8	9	10
11	12	13	**14**	15	16	17	18	19	20
21	22	23	24	25	26	27	**28**	29	30
31	32	33	34	**35**	36	37	38	39	40
41	**42**	43	44	45	46	47	48	**49**	50
51	52	53	54	55	**56**	57	58	59	60
61	62	**63**	64	65	66	67	68	69	**70**
71	72	73	74	75	76	**77**	78	79	80
81	82	83	**84**	85	86	87	88	89	90
91	92	93	94	95	96	97	**98**	99	100

SKIP COUNTING BY 8

8, 16, 24, 32, 40
48, 56, 64, 72, 80

1	2	3	4	5	6	7	**8**	9	10
11	12	13	14	15	**16**	17	18	19	20
21	22	23	**24**	25	26	27	28	29	30
31	**32**	33	34	35	36	37	38	39	**40**
41	42	43	44	45	46	47	**48**	49	50
51	52	53	54	55	**56**	57	58	59	60
61	62	63	**64**	65	66	67	68	69	70
71	**72**	73	74	75	76	77	78	79	**80**
81	82	83	84	85	86	87	**88**	89	90
91	92	93	94	95	**96**	97	98	99	100

SKIP COUNTING BY 9

9, 18, 27, 36, 45, 54, 63, 72, 81, 90

1	2	3	4	5	6	7	8	**9**	10
11	12	13	14	15	16	17	**18**	19	20
21	22	23	24	25	26	**27**	28	29	30
31	32	33	34	35	**36**	37	38	39	40
41	42	43	44	**45**	46	47	48	49	50
51	52	53	**54**	55	56	57	58	59	60
61	62	**63**	64	65	66	67	68	69	70
71	**72**	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	**90**
91	92	93	94	95	96	97	98	**99**	100

PLACE VALUE

Place			
Thousands	Hundreds	Tens	Ones
3	*4*	*2*	*0*

Value			
3000	*400*	*20*	*0*

OPERATION TERMINOLOGY

Addition: sum, altogether, in total, more than
Subtraction: difference, less than, take away
Multiplication: product, times, lots of
Division: a fraction (half, third, quarter) of

ZERO 0

0 in words

Some of the words used to represent 0 are: nought, nil, none, nothing, zilch, zip.

Adding and subtracting 0

Adding and subtracting 0 to any number leaves the number unchanged.

$3 + 0 = 3$ $3 - 0 = 3$

Multiplying by 0

The product of any number and 0 is 0

$7 \times 0 = 0$

Dividing by 0

Dividing by 0 is meaningless.

$4 \div 0$ is a meaningless operation.

ONE 1

1 in words

Some of the words used to represent 1 are: one, a, an, each, single, unit.

1 as a fraction

$1 = \frac{2}{2}$ $1 = \frac{3}{3}$ $1 = \frac{4}{4}$ $1 = \frac{5}{5}$

Multiplying by 1

Any number multiplyed by 1 remains unchanged.

$3 \times 1 = 3$

Dividing by 1

Any number divided by 1 remains unchanged.

$7 \div 1 = 7$

× Table

1 × **1** = 1
2 × **1** = 2
3 × **1** = 3
4 × **1** = 4
5 × **1** = 5
6 × **1** = 6
7 × **1** = 7
8 × **1** = 8
9 × **1** = 9
10 × **1** = 10
11 × **1** = 11
12 × **1** = 12

× Table

1 × **2** = 2
2 × **2** = 4
3 × **2** = 6
4 × **2** = 8
5 × **2** = 10
6 × **2** = 12
7 × **2** = 14
8 × **2** = 16
9 × **2** = 18
10 × **2** = 20
11 × **2** = 22
12 × **2** = 24

× Table

1 × **3** = 3
2 × **3** = 6
3 × **3** = 9
4 × **3** = 12
5 × **3** = 15
6 × **3** = 18
7 × **3** = 21
8 × **3** = 24
9 × **3** = 27
10 × **3** = 30
11 × **3** = 33
12 × **3** = 36

× Table

1 × **4** = 4
2 × **4** = 8
3 × **4** = 12
4 × **4** = 16
5 × **4** = 20
6 × **4** = 24
7 × **4** = 28
8 × **4** = 32
9 × **4** = 36
10 × **4** = 40
11 × **4** = 44
12 × **4** = 48

× Table

1 × **5** = 5
2 × **5** = 10
3 × **5** = 15
4 × **5** = 20
5 × **5** = 25
6 × **5** = 30
7 × **5** = 35
8 × **5** = 40
9 × **5** = 45
10 × **5** = 50
11 × **5** = 55
12 × **5** = 60

× Table

1 × **6** = 6
2 × **6** = 12
3 × **6** = 18
4 × **6** = 24
5 × **6** = 30
6 × **6** = 36
7 × **6** = 42
8 × **6** = 48
9 × **6** = 54
10 × **6** = 60
11 × **6** = 66
12 × **6** = 72

× Table

1 × **7** = 7
2 × **7** = 14
3 × **7** = 21
4 × **7** = 28
5 × **7** = 35
6 × **7** = 42
7 × **7** = 49
8 × **7** = 56
9 × **7** = 63
10 × **7** = 70
11 × **7** = 77
12 × **7** = 84

× Table

1 × **8** = 8
2 × **8** = 16
3 × **8** = 24
4 × **8** = 32
5 × **8** = 40
6 × **8** = 48
7 × **8** = 56
8 × **8** = 64
9 × **8** = 72
10 × **8** = 80
11 × **8** = 88
12 × **8** = 96

× Table

1 × **9** = 9
2 × **9** = 18
3 × **9** = 27
4 × **9** = 36
5 × **9** = 45
6 × **9** = 54
7 × **9** = 63
8 × **9** = 72
9 × **9** = 81
10 × **9** = 90
11 × **9** = 99
12 × **9** = 108

× Table

1 × **10** = 10
2 × **10** = 20
3 × **10** = 30
4 × **10** = 40
5 × **10** = 50
6 × **10** = 60
7 × **10** = 70
8 × **10** = 80
9 × **10** = 90
10 × **10** = 100
11 × **10** = 110
12 × **10** = 120

× Table

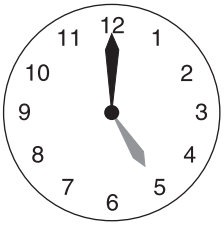
1 × **11** = 11
2 × **11** = 22
3 × **11** = 33
4 × **11** = 44
5 × **11** = 55
6 × **11** = 66
7 × **11** = 77
8 × **11** = 88
9 × **11** = 99
10 × **11** = 110
11 × **11** = 121
12 × **11** = 132

× Table

1 × **12** = 12
2 × **12** = 24
3 × **12** = 36
4 × **12** = 48
5 × **12** = 60
6 × **12** = 72
7 × **12** = 84
8 × **12** = 96
9 × **12** = 108
10 × **12** = 120
11 × **12** = 132
12 × **12** = 144

TIME

O'CLOCK



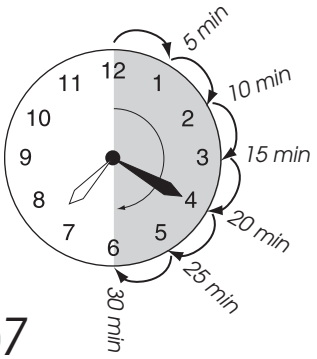
BIG HAND
on 12
LITTLE HAND
on the hour

five o'clock

5:00

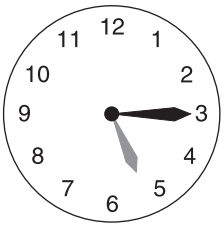
ANALOGUE - PAST

PAST -
big hand to the right



20 minutes past 7

A QUARTER PAST



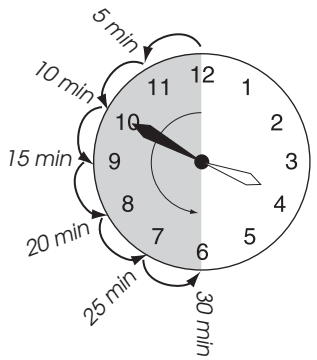
BIG HAND
on 3
LITTLE HAND
past the hour

a quarter past five

5:15

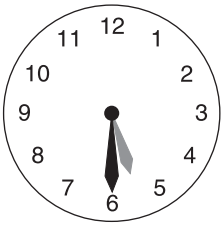
ANALOGUE - TO

TO -
big hand to the left



10 minutes to 4

HALF PAST

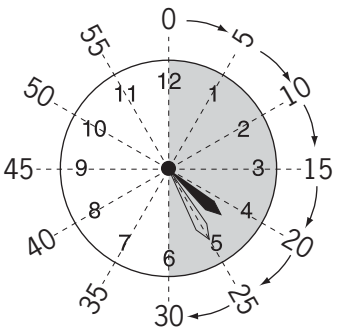


BIG HAND
on 6
LITTLE HAND
half way past
the hour

half past five

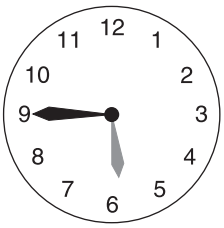
5:30

DIGITAL - PAST



4:25

A QUARTER TO

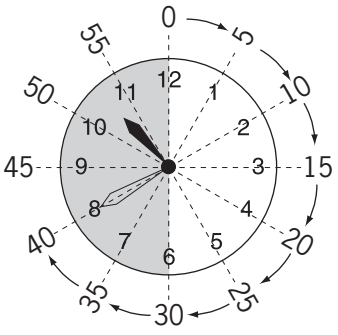


BIG HAND
on 9
LITTLE HAND
before the hour

a quarter to six

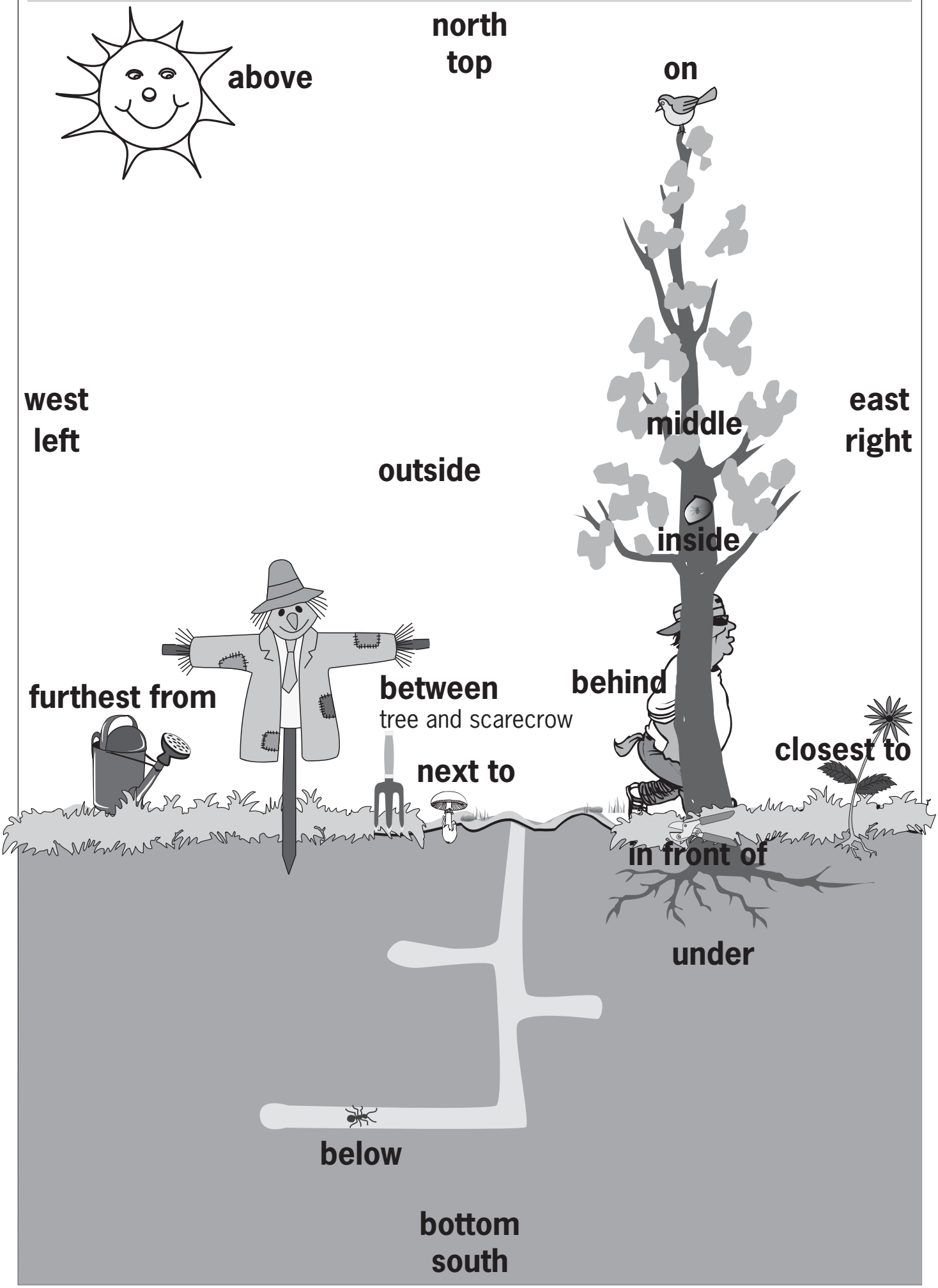
5:45

DIGITAL - TO

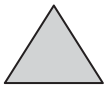
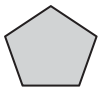
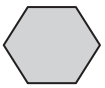
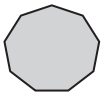
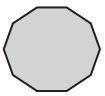


10:40

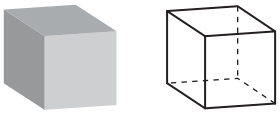
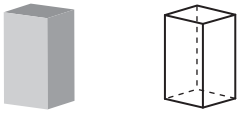
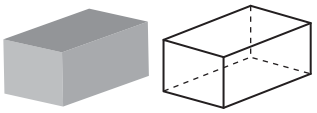
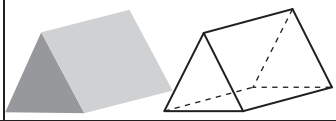
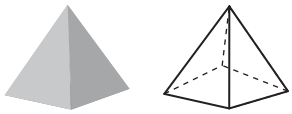
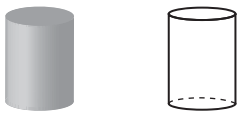
POSITION ... in reference to the tree



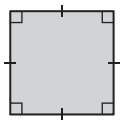
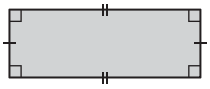
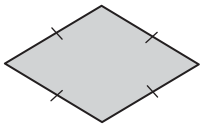
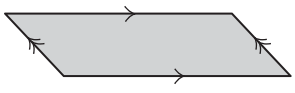
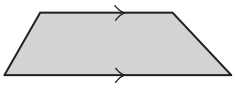
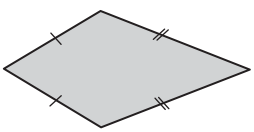
2D SHAPES

triangle 3 sides	
quadrilateral 4 sides	
pentagon 5 sides	
hexagon 6 sides	
heptagon 7 sides	
octagon 8 sides	
nonagon 9 sides	
decagon 10 sides	

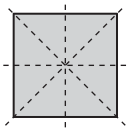
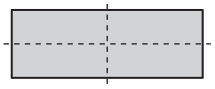
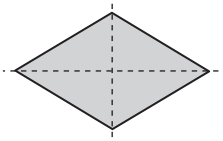
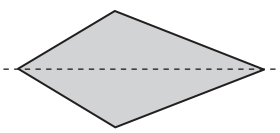
3D SHAPES

cube	
square prism	
rectangular prism	
triangular prism	
square pyramid	
cylinder	
cone	
sphere	

SPECIAL QUADRILATERALS

square	
rectangle	
rhombus	
parallelogram	
trapezium	
kite	

LINES OF SYMMETRY

square 4 lines of symmetry	
rectangle 2 lines of symmetry	
rhombus 2 lines of symmetry	
parallelogram 0 lines of symmetry	
trapezium 0 lines of symmetry	
kite 1 line of symmetry	

ANSWERS

1. [Counting] page 1

Skill 1.1 a) 7, b) 5, c) 6, d) 8, e) 10, f) 12, g) 11, h) 9

Skill 1.2 a) 12, 13, 14, b) 22, 23, 24, c) 43, 44, 45, d) 37, 38, 39
e) 50, 51, 52, f) 68, 69, 70, g) 71, 72, 73, h) 89, 90, 91
i) 17, 18, 19, j) 54, 55, 56, k) 120, 121, 122
l) 169, 170, 171, m) 126, 127, 128, n) 635, 636, 637

Skill 1.3 a) 28, 29, 30, 31, 32, 33, b) 7, 8, 9, 10, 11, 12
c) 9, 8, 7, 6, 5, 4, d) 18, 19, 20, 21, 22, 23
e) 76, 77, 78, 79, 80, 81, f) 15, 14, 13, 12, 11, 10
g) 43, 44, 45, 46, 47, 48, h) 94, 93, 92, 91, 90, 89
i) 304, 303, 302, 301, 300, j) 200, 201, 202, 203, 204
k) 189, 190, 191, 192, 193, l) 789, 788, 787, 786, 785
m) 1005, 1006, 1007, 1008, n) 5925, 5926, 5927, 5928

Skill 1.4 a) 2, 4, 6, 8, 10, b) 4, 8, 12, 16, 20, 24, c) 16, d) 35
e) 3, 6, 9, 12, 15, 18, f) 5, 10, 15, 20, 25, 30
g) 4, 8, 12, 16, 20, 24, h) 2, 4, 6, 8, 10 12
i) 5, 10, 15, 20, 25, 30, j) 3, 6, 9, 12, 15, 18

Skill 1.5 a) 63, b) 49, c) 56, d) 42, e) 6, 12, 18, 24, 30, 36
f) 9, 18, 27, 36, 45, 54, g) 7, 14, 21, 28, 35, 42
h) 8, 16, 24, 32, 40, 48, i) 9, 18, 27, 36, 45, 54
j) 7, 14, 21, 28, 35, 42, k) 8, 16, 24, 32, 40, 48
l) 6, 12, 18, 24, 30, 36

Skill 1.6 a) 68, 58, 48, 38, 28, 18, b) 10, 20, 30, 40, 50, 60
c) 43, 53, 63, 73, 83, 93, d) 57, 47, 37, 27, 17, 7
e) 22, 32, 42, 52, 62, 72, f) 60, 50, 40, 30, 20, 10
g) 18, 28, 38, 48, 58, 68, h) 99, 89, 79, 69, 59, 49
i) 800, 810, 820, 830, 840, j) 112, 122, 132, 142, 152
k) 560, 550, 540, 530, 520, l) 302, 312, 322, 332, 342
m) 2530, 2540, 2550, 2560, n) 1010, 1020, 1030, 1040

Skill 1.7 a) 15, 20, 25, 30, 35, 40, 45, b) 6, 8, 10, 12, 14, 16, 18
c) 110, 120, 130, 140, 150, 160
d) 40, 44, 48, 52, 56, 60, 64, 68
e) 250, 260, 270, 280, 290, 300
f) 21, 24, 27, 30, 33, 36, 39, 42
g) 4, 8, 12, 16, 20, 24, 28, 32, h) 4, 6, 8, 10, 12, 14, 16
i) 10, 20, 30, 40, 50, 60, 70
j) 46, 48, 50, 52, 54, 56, 58, 60
k) 25, 30, 35, 40, 45, 50, 55, 60
l) 36, 39, 42, 45, 48, 51, 54

Skill 1.8 a) 4, 8, 12, 16, 20, 24, b) 6, 9, 12, 15, 18, 21
c) 12, 16, 20, 24, 28, 32, d) 15, 18, 21, 24, 27, 30
e) 20, 25, 30, 35, 40, 45, f) 28, 30, 32, 34, 36, 38
g) 33, 36, 39, 42, 45, 48, h) 50, 55, 60, 65, 70, 75
i) 20, 24, 28, 32, 36, 40, j) 50, 52, 54, 56, 58, 60
k) 16, 24, 32, 40, 48, 56, l) 18, 27, 36, 45, 54, 63
m) 18, 24, 30, 36, 42, 48, n) 14, 21, 28, 35, 42, 49

Skill 1.9 a) 55, (10), (48), 35, (26), 61, 107 b) (22), 13, 17, 45, 29, 41, (110)

c) 174, 20, 52, (35), 18, (81), 304 d) 22, 14, (37), 82, 16, (93), 138

e) 124, (27), (83), 16, 92, 108, 20 f) 135, (56), 97, (24), 19, 21, (78)

g) 18, h) 47, i) 41, j) 76, k) 33, l) 94, m) even, n) odd
o) odd, p) odd, q) even, r) odd
s) t) u) v) w) x)

Skill 1.10 a) 23, b) 19, c) 19, d) 31, e) 40, f) 71, g) 21, h) 37, i) 77
j) 85, k) 110, l) 141, m) 203, n) 196

2. [Addition] page 13

Skill 2.1 a) 11, b) 7, c) 10, d) 13, e) 12, f) 11, g) 5 + 3 = 8
h) 3 + 6 = 9, i) 5 + 4 = 9, j) 4 + 7 = 11, k) 3 + 6 = 9
l) 8 + 4 = 12, m) 7 + 8 = 15, n) 9 + 5 = 14, o) 6 + 7 = 13
p) 7 + 5 = 12, q) 5 + 9 = 14, r) 8 + 3 = 11

Skill 2.2 a) 8, b) 6, c) 6, d) 9, e) 7, f) 7, g) 8, h) 10, i) 16, j) 14

Skill 2.3 a) 17, b) 20, c) 18, d) 16, e) 18, f) 17, g) 16, h) 19, i) 20
j) 19

Skill 2.4 a) 14, b) 21, c) 12, d) 18, e) 25, f) 40, g) 20, h) 12

Skill 2.5 a) 32, b) 21, c) 63, d) 42, e) 36, f) 18, g) 14, h) 35

Skill 2.6 a) 12, b) 14, c) 16, d) 11, e) 15, f) 17, g) 19, h) 13

Skill 2.7 a) b) c) d) e) f) g) h)

i) 2 5 1 7 4 / 3 6 9 5 8 j) 5 3 9 8 6 / 4 7 5 2 1

k) 7 4 5 2 1 / 6 9 3 8 5 l) 4 9 7 8 5 / 3 6 5 1 2

Skill 2.8 a) 11 15 20 19 12 / 0 9 8 5 1 b) 3 10 7 4 2 / 16 18 10 13 17

c) 13 17 14 16 18 / 2 3 7 6 4 d) 9 6 8 1 5 / 14 19 15 11 12

e) 12 14 20 17 15 / 8 0 5 6 3 f) 8 2 10 4 3 / 16 12 17 18 10

Skill 2.9 a) ③+ 6 +⑦= 16, b) ⑤+ 9 +⑤= 19, c) 8 +④+⑥= 18
d) ①+⑨+ 3 = 13, e) 7 +⑨+①= 17, f) ⑧+ 5 +②= 15
g) ⑥+④+ 3 = 13, h) ⑦+ 1 +③= 11, i) 4 +⑤+⑤= 14
j) ②+⑧+ 6 = 16, k) ⑦+ 8 +③= 18, l) ④+⑥+ 9 = 19

Skill 2.10 a) 29, b) 57, c) 39, d) 67, e) 39, f) 55, g) 58, h) 49, i) 229
j) 644, k) 217, l) 531, m) 437, n) 362
o) 200 + 10 + 6 = 216, p) 500 + 30 + 7 = 537
q) 300 + 40 + 8 = 348, r) 500 + 50 + 4 = 554
s) 600 + 20 + 9 = 629, t) 900 + 0 + 8 = 908

Skill 2.11 a) 4, b) 5, c) 4, d) 2, e) 9, f) 5, g) 8, h) 8

3. [Subtraction] page 27

Skill 3.1 a) 4, b) 2, c) 6, d) 1, e) 4, f) 4, g) 8 – 1 = 7, h) 7 – 3 = 4
i) 9 – 5 = 4, j) 12 – 4 = 8, k) 10 – 3 = 7, l) 7 – 6 = 1
m) 10 – 4 = 6, n) 12 – 9 = 3

Skill 3.2 a) 2, b) 5, c) 3, d) 3, e) 4, f) 3, g) 3, h) 1, i) 4, j) 2, k) 7, l) 7
m) 9, n) 7, o) 8, p) 12, q) 5, r) 5, s) 10, t) 13, u) 6, v) 4

Skill 3.3 a) 8, b) 7, c) 8, d) 6, e) 6, f) 5

Skill 3.4 a) 11, b) 14, c) 21, d) 12, e) 37 – 6 = 31, f) 59 – 8 = 51

Skill 3.5 a) 21, b) 12, c) 46, d) 32, e) 36 – 24 = 12, f) 49 – 22 = 27

Skill 3.6 a) 17, b) 14, c) 19, d) 26, e) 18, f) 29

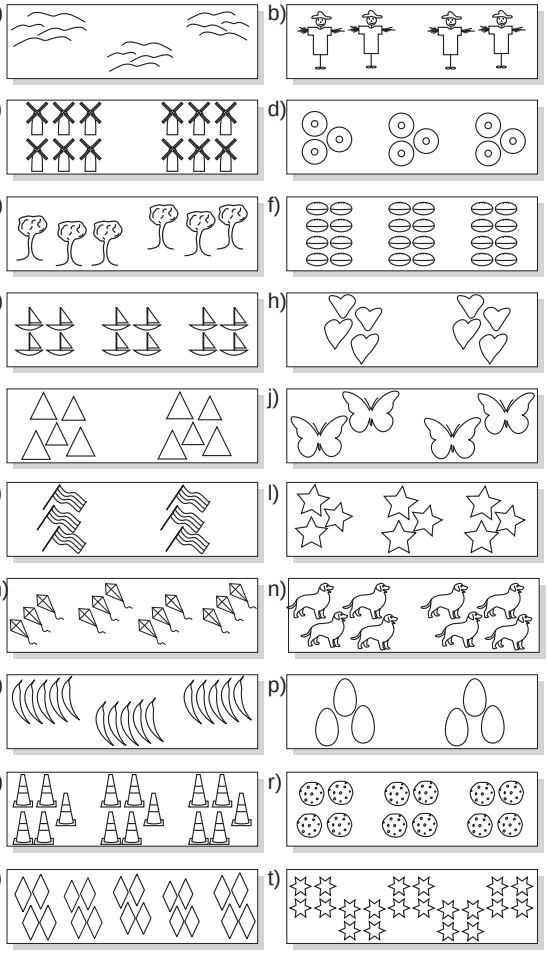
Skill 3.7 a) 13, b) 18, c) 19, d) 17

Skill 3.8 a) false, b) false, c) false, d) false, e) 5, f) 8, g) 9, h) 9

4. [Multiplication] page 37

Skill 4.1 a) 4, b) 3, c) 4, d) 5, e) 6, f) 5, g) 7, h) 2

Skill 4.2



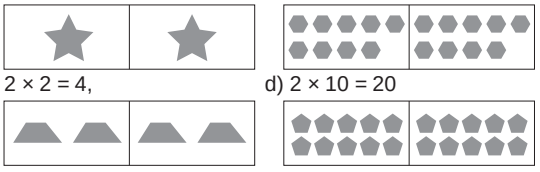
Skill 4.3 a) 3, 8, b) 5, 8, c) 2, 4, d) 5, 6, e) 3, 7, f) 5, 5, g) 8, 3, h) 6, 2

Skill 4.4 a) 32 paints, b) 10 people, c) 24 legs, d) 48 cans
e) 27 bricks, f) 20 books, g) 16 keys, h) 10 birds

Skill 4.5 a) 6, b) 18, c) 20, d) 28, e) 5 × 6 = 30, f) 5 × 7 = 35
g) 2 × 4 = 8, h) 2 × 6 = 12, i) 3 × 4 = 12, j) 3 × 10 = 30
k) 4 × 6 = 24, l) 4 × 8 = 32, m) 16, n) 20, o) 30, p) 45
q) 3 × 3 = 9, r) 2 × 3 = 6, s) 3 × 7 = 21, t) 2 × 10 = 20
u) 4 × 2 = 8, v) 5 × 7 = 35

Skill 4.6 a) 3, 21 paints, b) 6, 36 lines, c) 2, 18 windows
d) 3, 15 planks, e) 5, 30 books, f) 2, 16 chairs
g) 7, 21 drawers, h) 4, 24 balls, i) 3, 18 columns
j) 2, 14 people, k) 3, 30 gymnasts, l) 3, 9 blades

Skill 4.7 a) 2, b) 18



c) 2 × 2 = 4, d) 2 × 10 = 20

e) 10, f) 16, g) 2 × 6 = 12, h) 2 × 3 = 6, i) 2 × 10 = 20
j) 2 × 12 = 24

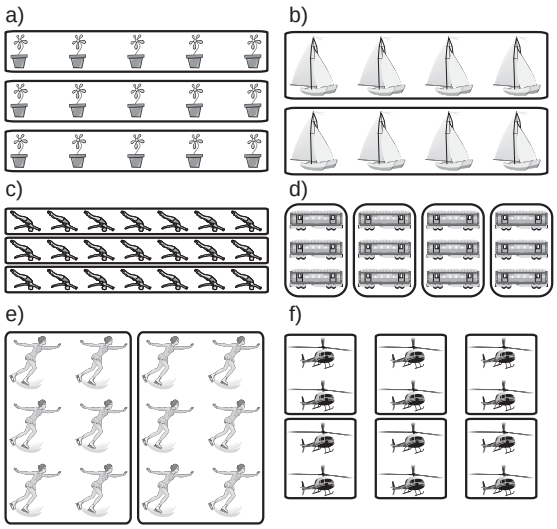
Skill 4.8 a) 40, b) 50, c) 20, d) 30, e) 70, f) 50, g) 80, h) 100

Skill 4.9 a) 15, b) 12, c) 16, d) 10, e) 6, f) 25, g) 40, h) 18, i) 24
j) 54, k) 32, l) 49, m) 21, n) 27

Skill 4.10 a) 4, b) 5, c) 3, d) 7, e) 7 × 1 = 1 × 7, f) 6 × 2 = 2 × 6
g) 4 × 8 = 8 × 4, h) 8 × 7 = 7 × 8

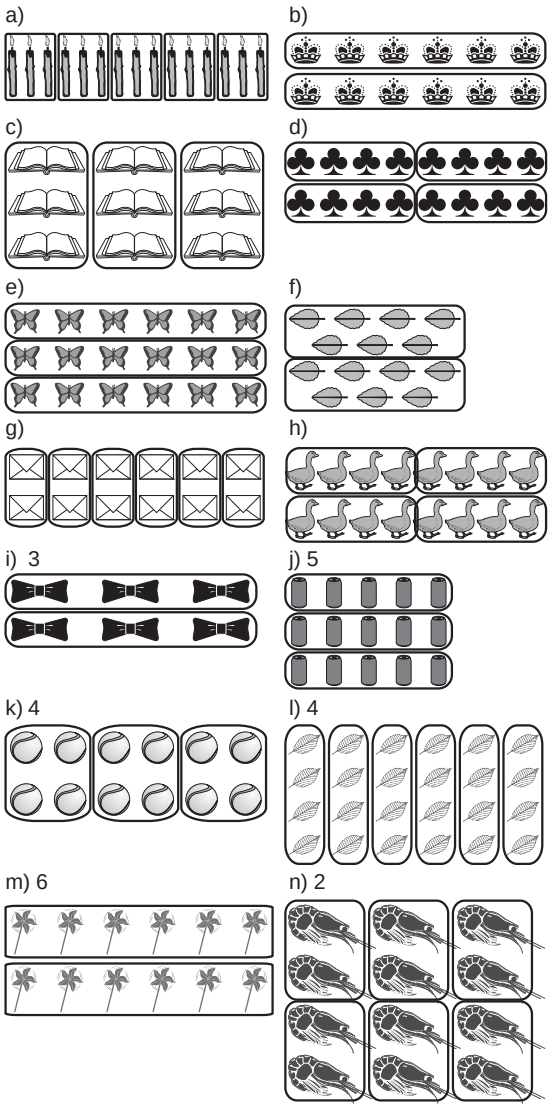
5. [Division] page 53

Skill 5.1



Skill 5.2 a) 3, b) 4, c) 6, d) 7, e) 5, f) 6

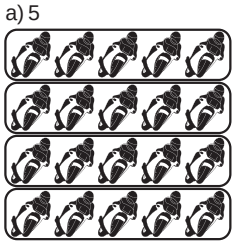
Skill 5.3



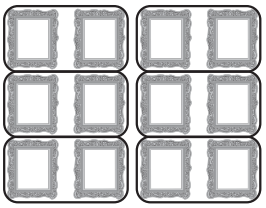
5. [Division] (cont.)

Skill 5.4

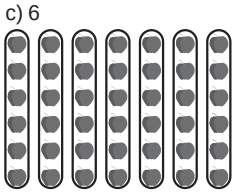
a) 5



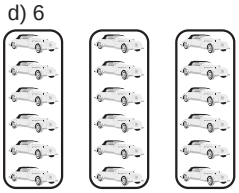
b) 2



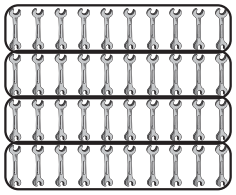
c) 6



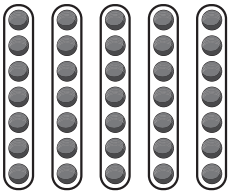
d) 6



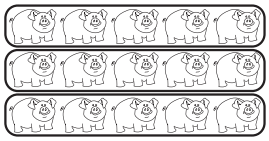
e) 10



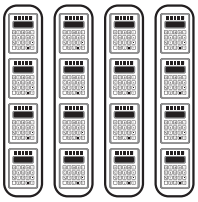
f) 7



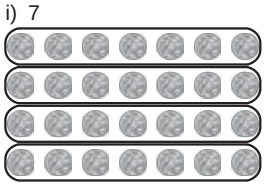
g) 5



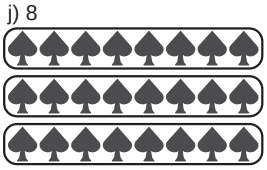
h) 4



i) 7



j) 8



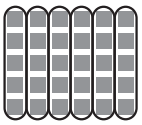
Skill 5.5 a) 4, b) 3, c) 3, d) 8,e) 40 ÷ 10 = 4, f) 28 ÷ 4 = 7
g) 42 ÷ 6 = 7, h) 36 ÷ 6 = 6

Skill 5.6 a) 10, b) 5, c) 4, d) 8, e) 21 ÷ 3 = 7, f) 16 ÷ 4 = 4
g) 8 ÷ 2 = 4, h) 12 ÷ 4 = 3, i) 45 ÷ 5 = 9, j) 36 ÷ 4 = 9
k) 40 ÷ 5 = 8, l) 28 ÷ 4 = 7, m) 40 ÷ 4 = 10, n) 35 ÷ 5 = 7

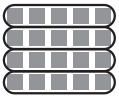
Skill 5.7 a) 4, b) 5, c) 8, d) 7, e) 6, f) 4

Skill 5.8

a) 5

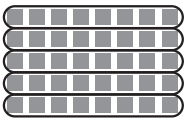


b) 5



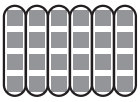
c) 10

d) 8

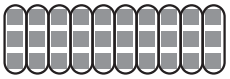


e) 6

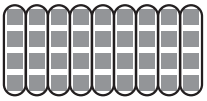
f) 4



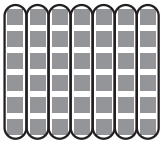
g) 3



h) 4



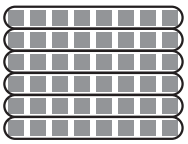
i) 6



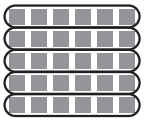
j) 9

k) 7

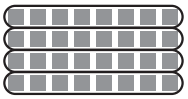
l) 8



m) 6



n) 8



Skill 5.9 a) 8, b) 5, c) 3, d) 2, e) 5, f) 6

6. [+ Whole Number] page 67

Skill 6.1 a) 14, b) 11, c) 7, d) 16, e) 11, f) 14, g) 13, h) 8, i) 8, j) 9
k) 13, l) 12, m) 9, n) 10, o) 17, p) 16, q) 15, r) 13, s) 19
t) 18

Skill 6.2 a) 13, b) 14, c) 9, d) 11 e) 11, f) 5, g) 12, h) 13
i) 8, 10, 5, 7, 11, j) 11, 13, 15, 10, 14, k) 5, 12, 6, 11, 9
l) 10, 9, 8, 12, 5

Skill 6.3 a) 8, b) 9, c) 16, d) 14 e) 11, f) 12, g) 4, 8, 10, 5, 11
h) 9, 15, 16, 10, 13, i) 11, 15, 17, 12, 10
j) 13, 17, 18, 14, 10

Skill 6.4 a) 8, b) 11, c) 15, d) 12, e) 5, 7, 9, 4, 3, f) 12, 16, 17, 14, 15
g) 9, 11, 12, 14, 10, h) 15, 8, 11, 9, 12

Skill 6.5 a) 15, b) 13, c) 12, d) 18, e) 16, f) 14, g) 7, 9, 12, 6, 11
h) 12, 9, 15, 13, 8, i) 6, 11, 9, 14, 10, j) 15, 16, 11, 13, 17

Skill 6.6 a) 20, b) 20, c) 20, d) 20, e) 20, f) 20, g) 20, h) 20, i) 20
j) 20, k) 20, l) 20, m) 20, n) 20, o) 20, p) 20, q) 20, r) 20

Skill 6.7 a) 13, b) 15, c) 18, d) 20, e) 19, f) 17, g) 16, h) 13, i) 24
j) 28, k) 27, l) 37, m) 35, n) 32, o) 36, p) 41, q) 46, r) 44

Skill 6.8 a) 59, b) 76, c) 59, d) 49, e) 55, f) 58, g) 69, h) 88, i) 86
j) 34, k) 87, l) 59, m) 76, n) 63, o) 98, p) 49, q) 78, r) 68
s) 79, t) 85, u) 89, v) 589, w) 493, x) 596, y) 796, z) 648
A) 399, B) 665, C) 797, D) 656, E) 498, F) 599, G) 855

Skill 6.9 a) 53, b) 72, c) 44, d) 61, e) 55, f) 65, g) 42, h) 74, i) 82
j) 790, k) 782, l) 733, m) 493, n) 438, o) 927, p) 646
q) 627, r) 621, s) 703, t) 605, u) 805, v) 651, w) 661, x) 706
y) 442, z) 440, A) 510, B) 701, C) 904, D) 864

7. [– Whole Number] page 79

Skill 7.1 a) 8, b) 5, c) 6, d) 6, e) 12, f) 8, g) 5, h) 6, i) 7, j) 4, k) 7, l) 9
m) 9, n) 4, o) 8, p) 6, q) 5, r) 11, s) 3, t) 7

Skill 7.2 a) 9, b) 5, c) 7, d) 8, e) 6, f) 9, g) 14, h) 25, i) 5, 7, 4, 8, 9
j) 8, 1, 3, 7, 4, k) 3, 6, 8, 5, 7, l) 3, 7, 2, 9, 5

Skill 7.3 a) 6, b) 8, c) 5, d) 9, e) 15, f) 16, g) 3, 1, 7, 4, 5
h) 6, 3, 2, 7, 4, i) 3, 6, 5, 1, 8, j) 2, 4, 8, 3, 5

Skill 7.4 a) 6, b) 6, c) 9, d) 4, e) 14, f) 26, g) 18, h) 38, i) 29
j) 5, 2, 6, 8, 4, k) 1, 6, 9, 7, 4

Skill 7.5 a) 3, b) 6, c) 19, d) 28, e) 5, 1, 3, 7, 4, f) 6, 8, 4, 7, 2
g) 5, 3, 7, 4, 9, h) 4, 8, 6, 2, 3

Skill 7.6 a) 6, b) 8, c) 8, d) 5, e) 9, f) 18, g) 26, h) 37, i) 4, 6, 9, 7, 3
j) 9, 6, 7, 4, 8

Skill 7.7 a) 33, b) 42, c) 22, d) 32, e) 12, f) 31, g) 17, h) 21, i) 33
j) 34, k) 23, l) 35, m) 43, n) 12, o) 45, p) 343, q) 15, r) 245
s) 272, t) 432, u) 311, v) 252, w) 251, x) 253, y) 244, z) 312
A) 331, B) 322, C) 153, D) 541, E) 414, F) 125, G) 155

Skill 7.8 a) 28, b) 18, c) 29, d) 17, e) 27, f) 36, g) 29, h) 35, i) 16
j) 34, k) 508, l) 335, m) 347, n) 315, o) 137, p) 126, q) 174
r) 253, s) 246, t) 175, u) 479, v) 291, w) 269, x) 78

8. [×,÷ Whole Number] page 89

Skill 8.1 a) 40, b) 15, c) 60, d) 14, e) 10, f) 30, g) 18, h) 28, i) 12
j) 24, k) 18, l) 18, m) 20, n) 21, o) 90, p) 35, q) 12, r) 15
s) 60, t) 25

Skill 8.2 a) 10, b) 5, c) 3, d) 8, e) 6, f) 4, g) 7, h) 8, i) 9, j) 2, k) 6, l) 4
m) 6, n) 9, o) 7, p) 2, q) 6, r) 9, s) 4, t) 7

Skill 8.3 a) 20, b) 70, c) 50, d) 60, e) 10, f) 80, g) 90, h) 30, i) 40
j) 100, k) 110, l) 120, m) 20, 100, 40, 60, 50
n) 10, 90, 30, 70, 80

Skill 8.4 a) 10, b) 12, c) 24, d) 16, e) 32, f) 8, g) 12, h) 8, i) 16, j) 14
k) 20, l) 28, m) 6, 12, 10, 16, 8, n) 24, 8, 12, 20, 16

Skill 8.5 a) 15, b) 12, c) 3, d) 18, e) 6, f) 24, g) 21, h) 9, i) 30, j) 27
k) 33, l) 36, m) 15, 12, 3, 21, 27, n) 18, 9, 6, 24, 30

Skill 8.6 a) 25, b) 20, c) 5, d) 30, e) 10, f) 40, g) 35, h) 15, i) 50, j) 45
k) 55, l) 60, m) 25, 20, 5, 35, 45, n) 30, 15, 10, 40, 50

Skill 8.7 a) 24, b) 35, c) 64, d) 54, e) 28, f) 48, g) 24, h) 21, i) 14
j) 40, k) 30, 24, 6, 42, 54, l) 42, 7, 56, 49, 63
m) 56, 72, 16, 32, 80, n) 36, 18, 12, 48, 60

Skill 8.8 a) 45, b) 36, c) 9, d) 54, e) 18, f) 72, g) 63, h) 27, i) 90, j) 81
k) 99, l) 108, m) 18, 27, 63, 90, 81, n) 72, 9, 54, 36, 45

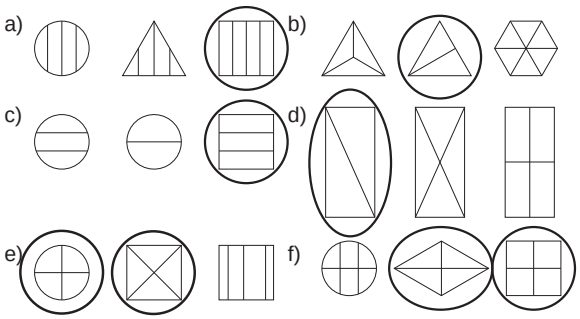
Skill 8.9 a) 4, b) 9, c) 6, d) 5, e) 3, f) 4, g) 6, h) 10, i) 7, j) 10, k) 9
l) 8, m) 6, n) 8, o) 5, p) 9, q) 5, r) 3, s) 9, t) 8
u) 8, 2, 10, 9, 5, v) 6, 4, 1, 9, 2, w) 2, 6, 10, 8, 9
x) 8, 2, 5, 9, 3, y) 2, 9, 3, 7, 4, z) 5, 7, 2, 4, 10
A) 1, 3, 6, 10, 7, B) 9, 1, 4, 2, 6, C) 9, 3, 6, 1, 7
D) 7, 5, 2, 3, 10, E) 1, 8, 4, 6, 9, F) 5, 2, 6, 8, 4

Skill 8.10 a) 93, b) 84, c) 68, d) 46, e) 63, f) 82, g) 88, h) 96, i) 48
j) 336, k) 242, l) 626, m) 868, n) 488, o) 369

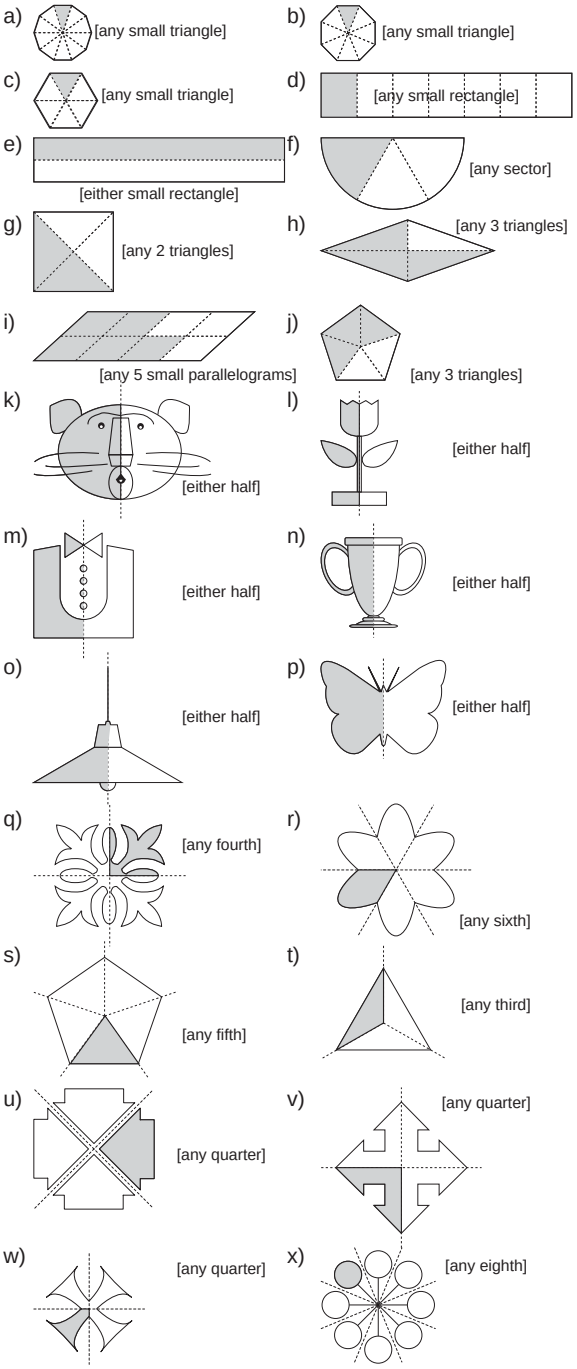
Skill 8.11 a) 12, b) 21, c) 32, d) 43, e) 34, f) 12, g) 41, h) 11, i) 21
j) 301, k) 102, l) 234, m) 301, n) 122, o) 201, p) 231
q) 412, r) 101

9. [Fractions] page 103

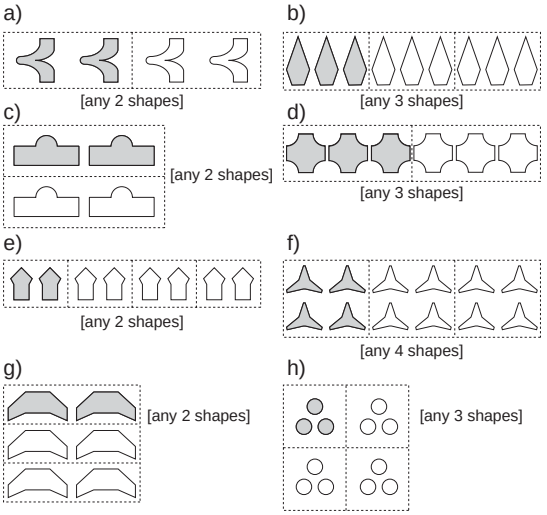
Skill 9.1



Skill 9.2



Skill 9.3



9. [Fractions] (cont.)

Skill 9.3

i) [any 3 shapes]

j) [any 6 shapes]

k) [any 4 shapes]

l) [any 6 shapes]

m) [any 8 shapes]

n) [any 9 shapes]

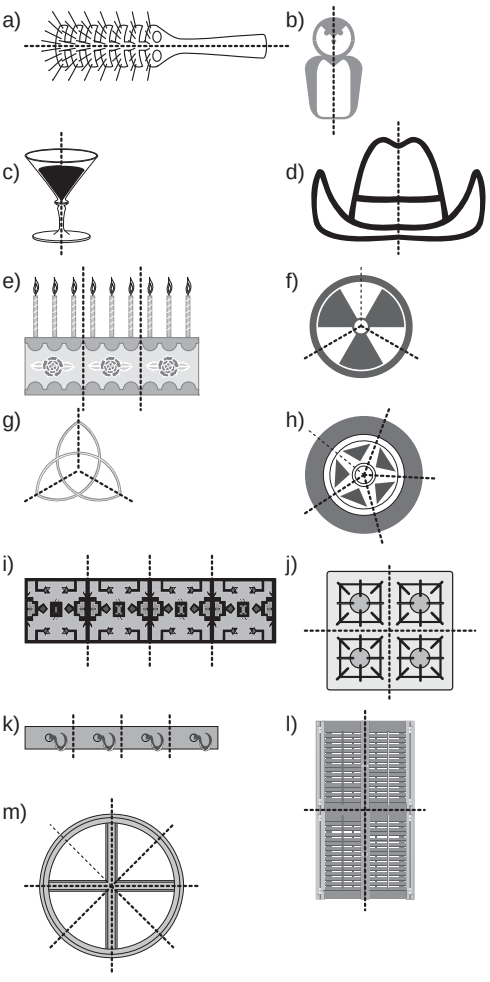
o) [any 6 shapes]

p) [any 4 shapes]

q) [any 9 shapes]

r) [any 8 shapes]

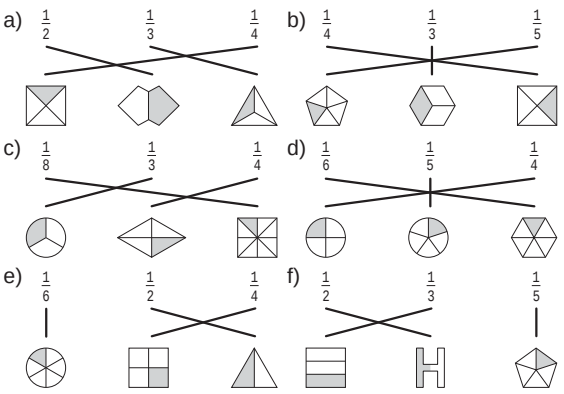
Skill 9.4



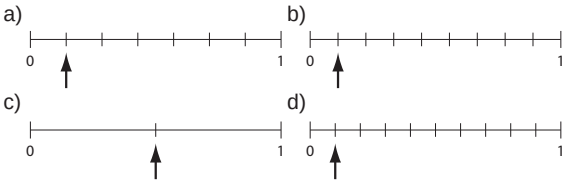
Skill 9.5 a) $\frac{1}{2}$, b) $\frac{1}{2}$, c) $\frac{1}{3}$, d) $\frac{1}{4}$, e) $\frac{1}{4}$, f) $\frac{3}{4}$, g) $\frac{3}{4}$, h) $\frac{2}{3}$

Skill 9.6 a) 4 out of 7, b) 3 out of 5, c) 3 out of 4, d) 2 out of 5
e) $\frac{3}{4}$, f) $\frac{3}{7}$, g) $\frac{5}{6}$, h) $\frac{5}{9}$

Skill 9.7



Skill 9.8

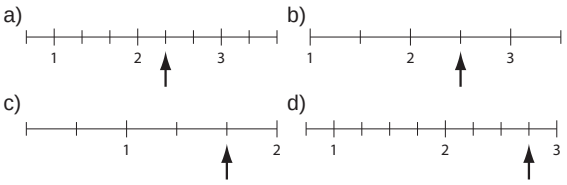


e) $\frac{1}{9}$, f) $\frac{1}{6}$, g) $\frac{1}{3}$, h) $\frac{1}{5}$

Skill 9.9 a) $\frac{1}{2}$, b) $\frac{1}{2}$, c) $\frac{1}{4}$, d) $\frac{1}{6}$, e) $\frac{3}{5}$, f) $\frac{2}{7}$, g) $\frac{5}{8}$, h) $\frac{3}{10}$

Skill 9.10 a) $1\frac{1}{4}$, b) $2\frac{1}{5}$, c) $1\frac{1}{2}$, d) $1\frac{1}{3}$, e) $1\frac{2}{5}$, f) $2\frac{2}{3}$, g) $2\frac{3}{5}$, h) $1\frac{4}{5}$

Skill 9.11



e) $2\frac{1}{4}$, f) $1\frac{1}{3}$, g) $3\frac{3}{4}$, h) $4\frac{5}{6}$

10. [Place Value] page 119

Skill 10.1 a) 25, b) 67, c) 58, d) 719, e) 846, f) 634
g) 2 tens 7 ones = 27, h) 8 tens 4 ones = 84
i) 3 tens 6 ones = 36, j) 5 tens 9 ones = 59, k) 521
l) 9 hundreds 0 tens 3 ones = 903
m) 7 hundreds 1 ten 4 ones = 714, n) 1325, o) 1234
p) 1448

Skill 10.2 a) 147, b) 205, c) 400, d) 562, e) 371, f) 840, g) 619
h) 904, i) 1200, j) 3402, k) 8700, l) 6004, m) 9020, n) 4530
o) 2190, p) 4605, q) 7050, r) 8924

Skill 10.3 a) 4 tens 5 ones, b) 5 tens 1 one, c) 6 tens 2 ones
d) 3 tens 9 ones, e) 2 hundreds 2 tens 8 ones
f) 5 hundreds 8 tens 3 ones, g) 4 hundreds 7 tens 6 ones
h) 9 hundreds 0 tens 1 one

i)

Hundreds	Tens	Ones
1	5	6

j)

Hundreds	Tens	Ones
7	4	9

k)

Thousands	Hundreds	Tens	Ones
6	8	1	5

l)

Thousands	Hundreds	Tens	Ones
2	7	0	3

Skill 10.4 a) 64, b) 52, c) 80, d) 713, e) 437, f) 165, g) 802, h) 940
i) 4585, j) 7822, k) 1369, l) 5067

Skill 10.5 a) 483 = 400 + 80 + 3, b) 928 = 900 + 20 + 8
c) 614 = 600 + 10 + 4, d) 750 = 700 + 50 + 0
e) 345 = 300 + 40 + 5, f) 826 = 800 + 20 + 6
g) 219 = 200 + 10 + 9, h) 470 = 400 + 70 + 0
i) 6257 = 6000 + 200 + 50 + 7
j) 3142 = 3000 + 100 + 40 + 2
k) 1875 = 1000 + 800 + 70 + 5
l) 8390 = 8000 + 300 + 90 + 0

Skill 10.6 a) 2, b) 3, c) 8, d) 4, e) 6, f) 8, g) 3, h) 0, i) ⑦5 1 , j) 2⑧4
k) 4 8③, l) ⑤1 4 9 , m) 1⑧3 6 , n) ⑥2 4 0

Skill 10.7 a) A, b) B, c) C, d) A, e) B, f) C, g) A, h) B, i) B, j) A, k) A
l) A

Skill 10.8 a) 73, b) 94, c) 61, d) 15, e) 742, f) 368, g) 168,
h) 974, i) 1235, j) 9753, k) 9742, l) 1256, m) 2467, n) 8531

10. [Place Value] (cont.)

Skill 10.9 a) true, b) false, c) false, d) true, e) false, f) false, g) <, h) >
i) >, j) <, k) >, l) <, m) >, n) <

Skill 10.10 a) 3, 11, 13, 31, b) 87, 71, 17, 8, 7, c) 604, 406, 66, 46
d) 29, 90, 92, 200, 209, e) 311, 128, 75, 40, 32
f) 9, 13, 38, 124, 521, g) 348, 384, 483, 843
h) 321, 312, 231, 123, i) 546, 465, 456, 56, 54
j) 80, 88, 408, 448, 800

11. [Word Numbers] page 131

Skill 11.1 a) 15, b) 27, c) 51, d) 84, e) 10, f) 90, g) 604, h) 306, i) 500
j) 800, k) 215, l) 197, m) 718, n) 967, o) 9000, p) 8000
q) 1005, r) 2001, s) 1052, t) 1300, u) 8024, v) 2308
w) 4547, x) 7806, y) 25 000, z) 63 000, A) 10 096, B) 51 013
C) 40 800, D) 15 330

Skill 11.2 a) eleven, b) fifteen, c) nineteen, d) thirty-eight
e) sixty-four, f) fifty-nine, g) eighty-one, h) ninety-three
i) twenty, j) seventy, k) fifty, l) thirty

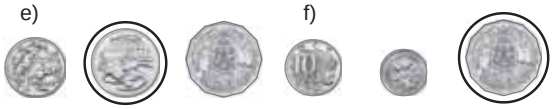
Skill 11.3 a) four hundred, b) one hundred and one
c) two hundred and seven, d) six hundred
e) one hundred and sixty-one, f) seven hundred and eight
g) three hundred and twelve, h) eight hundred and fifty
i) five hundred and fourteen, j) four hundred and seventy
k) three hundred and six, l) two hundred and twenty

Skill 11.4 a) five thousand, b) seven thousand and two
c) two thousand and sixty, d) eight thousand
e) one thousand and twenty-six, f) three thousand and ten
g) two thousand and forty-three
h) four thousand and thirty-five, i) five thousand and three
j) nine thousand, two hundred, k) one thousand and forty
l) eight thousand, six hundred

Skill 11.5 a) twenty-six thousand, b) fifty-four thousand
c) ninety-seven thousand, d) forty thousand, two hundred
e) fifty thousand, six hundred, f) thirty-nine thousand
g) twelve thousand, six hundred
h) ten thousand and seventy, i) fifty thousand and thirty
j) ten thousand, four hundred

12. [Money] page 137

Skill 12.1 a) 5 cents, b) 2 dollars, c) 1 dollar, d) 20 cents
e) f)



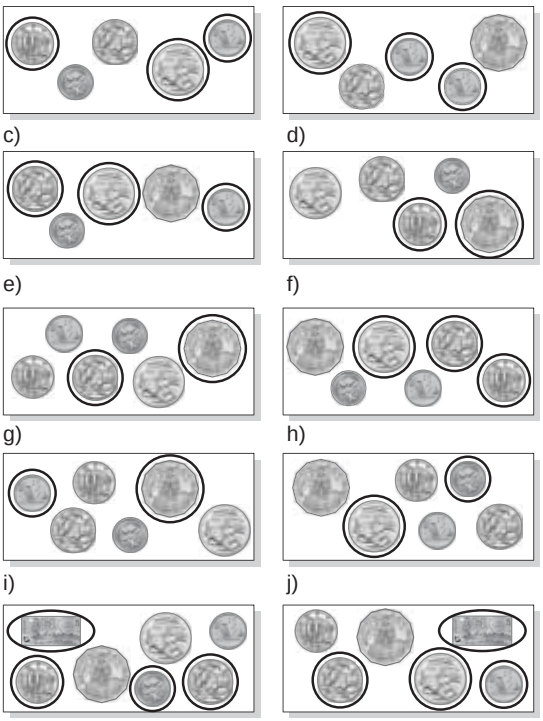
g) h)

Skill 12.2 a) b)

c) 20 dollars, d) 100 dollars, e) 50 dollars, f) 5 dollars, g) B
h) C, i) B, j) C, k) B, l) A, m) B, n) C

Skill 12.3 a) 65¢, b) 30¢, c) 75¢, d) $1.10, e) $2.55, f) $3.05, g) $1.25
h) $2.15, i) $6.50, j) $106, k) $30.20, l) $25.10, m) $70.10
n) $51.60, o) $10.75, p) $72.15, q) $16.55, r) $100.75

Skill 12.4 a) b)



c) d)

e) f)

g) h)

i) j)

Skill 12.5 a) A, b) B, c) C, d) B, e) C, f) B, g) B, h) A, i) C, j) B, k) A
l) A

Skill 12.6 a) 2, b) 4, c) 2, d) 5, e) 5, f) 7, g) 10, h) 4, i) 10, j) 20, k) 13
l) 15, m) 10, n) 25, o) 20, p) 9

Skill 12.7 a) 40¢, b) $5, c) $8, d) 85¢, e) 55¢, f) 35¢, g) $15, h) $55

Skill 12.8 a) $40, b) $50, c) $36, d) $1650, e) $18.50, f) $150, g) $21
h) $42, i) 50¢, j) 70¢, k) 90¢, l) $1.80, m) 80¢, n) $2.10
o) $6.10, p) $8.50, q) $4.20, r) $9.10, s) $7.00, t) $10.50

13. [Number Patterns] page 151

Skill 13.1 a) 19, 22, b) 14, 16, c) 110, 120, d) 65, 75, e) 22, 24
f) 44, 48, g) 22, 25, h) 31, 37, i) 43, 49, j) 49, 52
k) 73, 78, l) 41, 46, m) 46, 50, n) 45, 47, o) 62, 68
p) 13, 15, q) 57, 67, r) 44, 52, s) 47, 55, t) 52, 62, u) 62, 64
v) 72, 80, w) 24, 27, x) 47, 51, y) 38, 43, z) 62, 66

Skill 13.2 a) 20, 15, b) 18, 8, c) 14, 12, d) 47, 45, e) 33, 30, f) 17, 14
g) 16, 10, h) 39, 35, i) 15, 13, j) 9, 3, k) 33, 27, l) 18, 12
m) 18, 10, n) 25, 15, o) 14, 7, p) 19, 14, q) 14, 6, r) 33, 23
s) 25, 18, t) 22, 17, u) 9, 2, v) 9, 1, w) 40, 32, x) 15, 6
y) 10, 3, z) 10, 2

Skill 13.3 a) 17, 19, b) 17, 22, c) 16, 17, d) 21, 25, e) 23, 28
f) 16, 18, g) 16, 20, h) 23, 28, i) 17, 20, j) 18, 23, k) 24, 30
l) 16, 17, m) 22, 25, n) 19, 20

Skill 13.4 a) 6, 1, b) 6, 5, c) 8, 3 , d) 10, 6, e) 9, 4, f) 7, 4, g) 7, 2
h) 20, 18, i) 10, 8, j) 9, 4, k) 11, 10, l) 12, 6

Skill 13.5 a) 240, b) 162, c) 480, d) 405, e) 324, f) 729, g) 810
h) 1620, i) 625, j) 10 000, k) 50 000, l) 6250, m) 2500
n) 70 000

14. [Measuring] page 159

Skill 14.1 a) A, b)  c) A, d) C, e) B, f) A

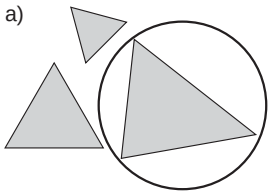
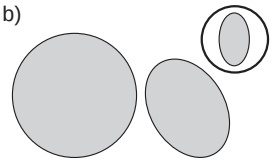
g)  h) B, i) C, j) A, k) C, l) B

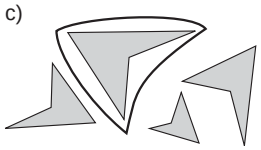
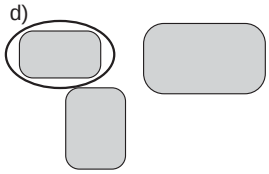
m) C, n) A, o) A, p) B, q) B, r) A

Skill 14.2 a) B, b) C, c) A, d) C, e) A, f) B, g) A, h) A

Skill 14.3 a) B, b) A, c) A, d) B, e) B, f) C, g) A, h) A

Skill 14.4 a) A, b) A, c) A, d) C, e) B, f) C, g) C, h) B, i) A, j) B

Skill 14.5 a)  b) 

c)  d) 

e) A, f) B, g) C, h) B

Skill 14.6 a) B, b) A, c) A, d) B, e) B, f) B, g) A, h) B, i) B, j) A

Skill 14.7 a) B, b) C, c) C, d) B, e) A, f) A, g) B, h) A, i) B, j) A

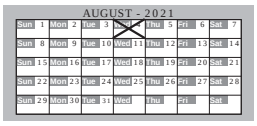
Skill 14.8 a) 7 cm, b) 2 cm, c) 4 cm, d) 6 cm, e) 8 cm, f) 5 cm
g) A, B, C, h) C, B, A, i) A, C, B, j) A, C, B, k) B, A, C
l) A, B, C, m) B & C, n) A & B, o) A & C, p) B & C

Skill 14.9 a) 5 cm, b) 7 cm, c) 4 cm, d) 5 cm, e) 7 cm, f) 6 cm
g) 45 mm, h) 25 mm

Skill 14.10 a) 3 cm, b) 7 cm, c) 2 cm, d) 6 cm, e) 2 m, f) 3 cm, g) 2 m
h) 2 m, i) 5 m, j) 4 cm, k) 2 cm, l) 1 mL, m) 8 L, n) 7 mL
o) 9 mL, p) 40 mL, q) 600 g, r) 200 g, s) 5 kg, t) 2 kg

15. [Time] page 173

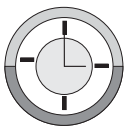
Skill 15.1 a) Tuesday, b) Sunday, c) Monday, d) Thursday
e) Wednesday, f) Wednesday, g) Thursday, h) Sunday
i) Friday, j) Friday, k) Saturday, l) Tuesday

Skill 15.2 a) 4, b) 5 c) 

d) 22, e) Monday, f) 13/4/2021

Skill 15.3 a) February, b) 31, c) September, d) autumn, e) 29, f) 30
g) summer, h) spring, i) November, j) July, k) 31, l) 12

Skill 15.4 a) past, b) to, c) past, d) to, e) past, f) past, g) past, h) to
i) to, j) to

Skill 15.5 a)  b) 

c)  d) 

e)  f) 

Skill 15.6 a) A, b) A, c) B, d) B, e) C, f) A, g) C, h) C, i) C, j) A
k) 5:00 am, l) 11:30 am, m) 11:00 am, n) 8:30 am
o) 10:20 am, p) 12:15 pm, q) 10:35 am, r) 4:05 am, s) true
t) false, u) false, v) false, w) true, x) true

Skill 15.7 a) ten o'clock, b) nine fifteen OR a quarter past nine
c) three thirty OR half past three
d) one twenty-five OR twenty-five past one
e) four forty-five OR a quarter to five
f) six forty-five OR a quarter to seven
g) a quarter past eight OR eight fifteen
h) ten to twelve OR eleven fifty
i) twenty-five to ten OR nine thirty-five
j) twenty past ten OR ten twenty
k) a quarter past seven OR seven fifteen
l) twenty past eleven OR eleven twenty
m) seven twenty OR twenty past seven
n) eight ten OR ten past eight
o) five forty OR twenty to six
p) four fifty OR ten to five
q) eleven fifty-five OR five to twelve
r) five twenty OR twenty past five
s) a quarter to one OR twelve forty-five
t) ten past five OR five ten
u) five past three OR three O five
v) twenty to two OR one forty

Skill 15.8 a) 8:00 pm, b) 6 minutes, c) Bolts & Blip, d) 6 hours
e) 12 days, f) 2

Skill 15.9 a) 1 week, b) 60 seconds, c) 28 days, d) 2 hours
e) 24 hours, f) 180 seconds

g) 30 minutes, **3 hours**, 300 seconds

h) 3 hours, **150 minutes**, 1 day

i) 1 year, 300 days, **60 weeks**

j) 30 hours, 1 week, **1 day**

k) **300 seconds**, 6 minutes, 2 days

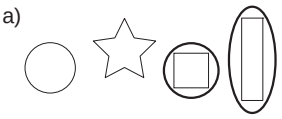
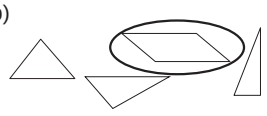
l) 3 weeks, 14 days, **1 month**

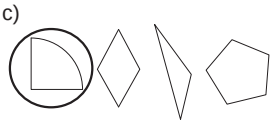
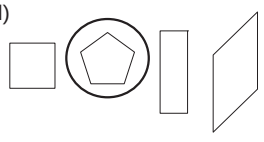
m) 120 seconds, n) 300 seconds, o) 1 minute, p) 1 hour
q) 60 minutes, r) 120 minutes, s) 2 weeks, t) 4 weeks
u) 7 days, v) 1 day, w) 24 hours, x) 14 days

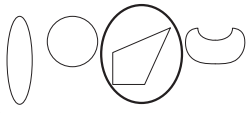
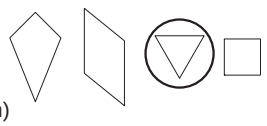
y) **2 days**, 40 hours, 200 minutes

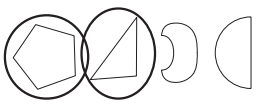
z) 4 weeks, 1 month, **21 days**

16. [Shapes] page 189

Skill 16.1 a)  b) 

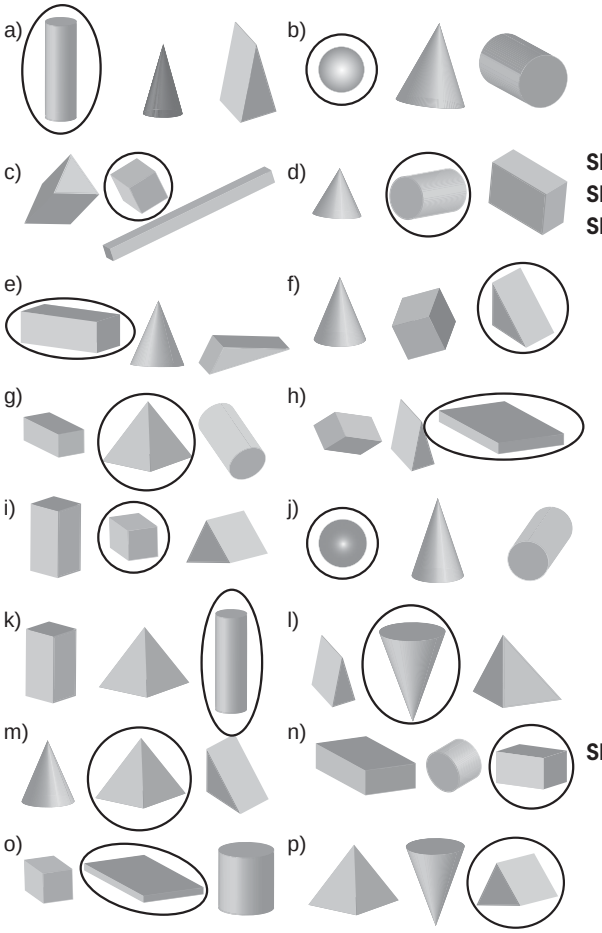
c)  d) 

e)  f) 

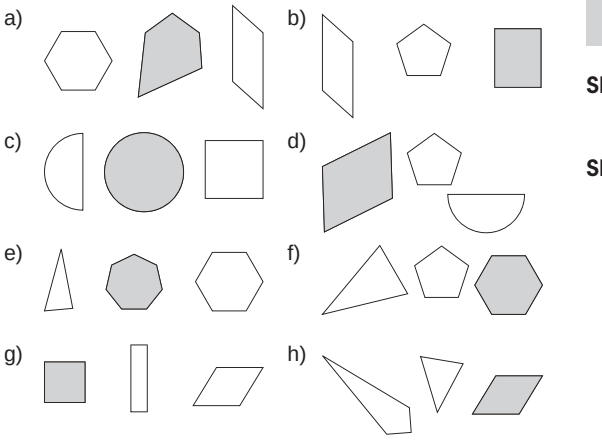
g)  h) 

16. [Shapes] [cont.]

Skill 16.2

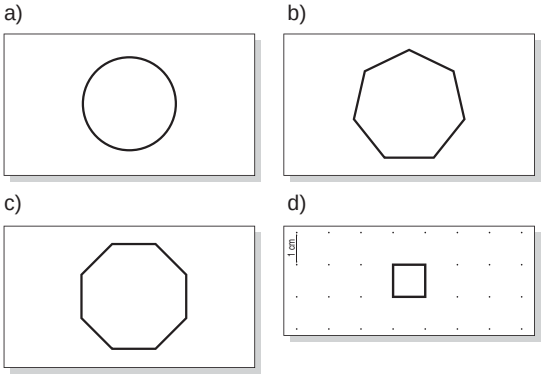


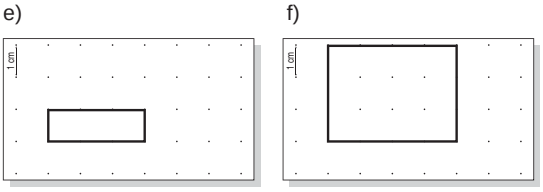
Skill 16.3



i) pentagon, j) hexagon, k) octagon, l) parallelogram
m) circle and triangle, n) kite and triangle
o) square and pentagon, p) rhombus and triangle

Skill 16.4

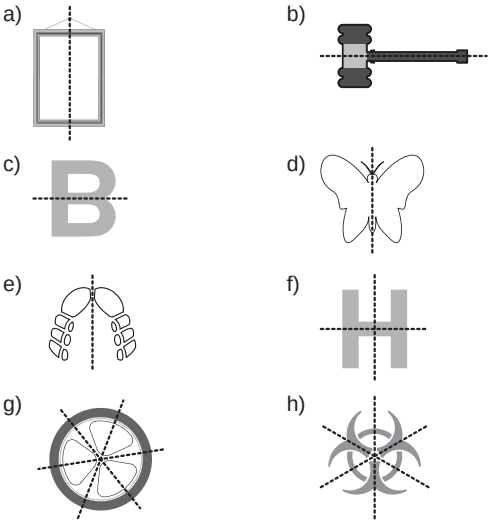




Skill 16.5 a) 4, b) 4, c) 3, d) 5, e) 6, f) 8, g) 9, h) 4, i) 4, j) 10

Skill 16.6 a) 12, b) 6, c) 6, d) 5, e) 6, f) triangle, g) square, h) triangle

Skill 16.7

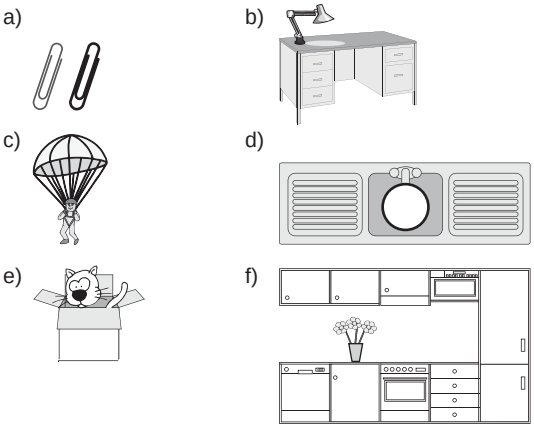


Skill 16.8 a) B, b) A, c) A, d) A, e) B, f) A

17. [Location] page 199

Skill 17.1 a) in front of, b) inside, c) on, d) under, e) behind, f) below g) on, h) inside, i) under, j) outside, k) behind, l) above m) inside, n) on

Skill 17.2

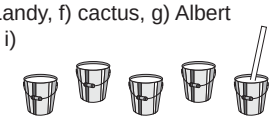


17. [Location] [cont.]

Skill 17.3 a) white, b) candy cane, c) Oliver Hardy
d) Michael Jackson, e) John Landy, f) cactus, g) Albert

h)

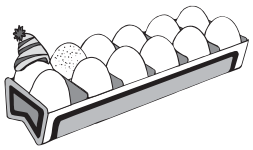
i)



j)

k)

l)



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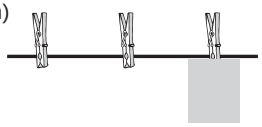
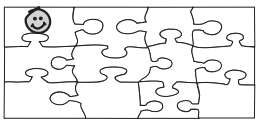


n)

Skill 17.4 a) Activity Shelter, b) Myanmar, c) ballroom, d) Yahoo
e) 4, f) R2-D2, g) Prime Minister, h) Tomorrow Land
i) Pele, j) Egyptian Mummies, k) coffee table, l) B

Skill 17.5 a) fish, b) 9, c) Rebecca, d) snail, e) Jay, f) Cee

g)



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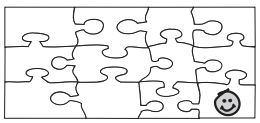

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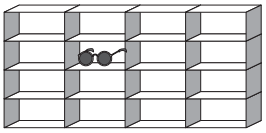

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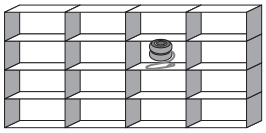
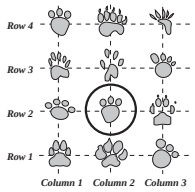


k) 2

l)



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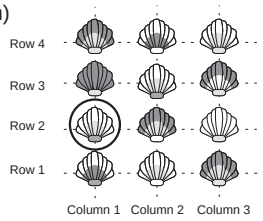

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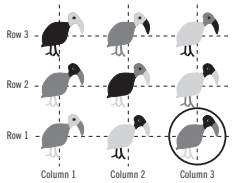

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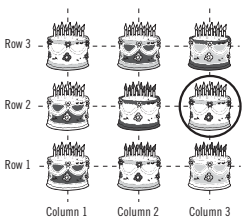

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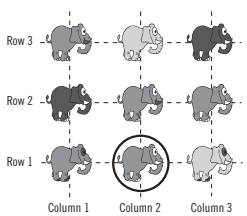
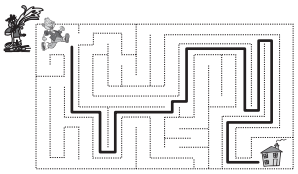


Skill 17.6 a)



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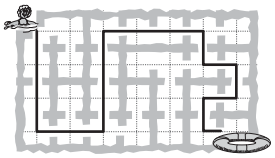

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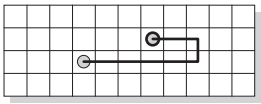
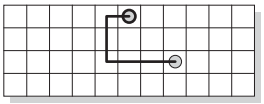


d)



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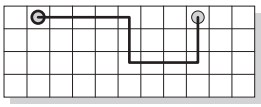

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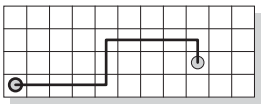

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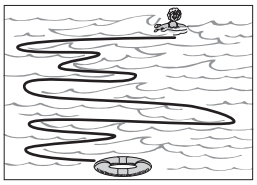
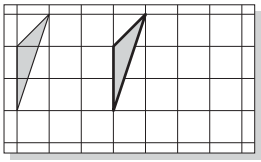


h) Hervey St, i) cinema, j) 3

Skill 17.7 a) turn, b) flip, c) turn, d) slide, e) flip, f) turn, g) slide
h) turn

Skill 17.8 a)



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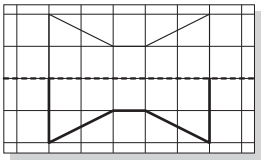

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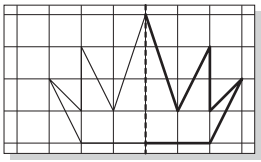

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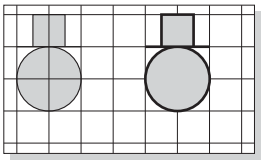

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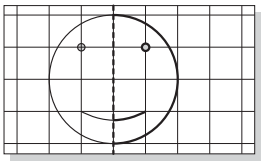

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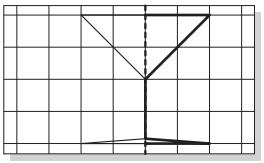

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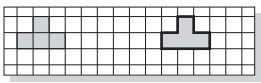

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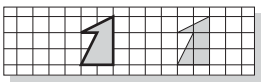

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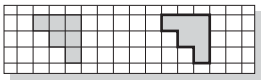

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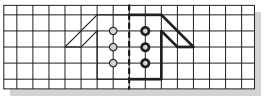

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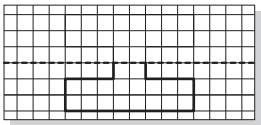

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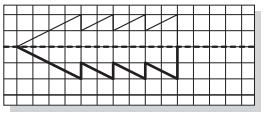


Skill 17.9 a) rectangle, b) tie, c) snake, d) X, e) Canada
f) Maiden Gully, g) 415, h) D, i) A, j) B, k) B, l) C
m) B, n) D, o) A2, p) D4, q) E5, r) A3, s) D2, t) C3

18. [Statistics / Probability] page 219

Skill 18.1 a) 5, b) 3, c) Australian Rules Football, d) Iris

Skill 18.2 a) 4, b) 5, c) 9, d) 13, e) 6, f) 10

g) |||

h) 𝍸 𝍸 I

i)

Number	Tally
7	𝍸 II

j)

Number	Tally
12	𝍸 𝍸 II

k)

Tally	Number
𝍸 |||	8

l)

Tally	Number
𝍸 𝍸 ||||	14

Skill 18.3 a)

Vehicle Type Passing School

Vehicle	Tally	Number
Sedan	𝍸 ||||	9
Station Wagon	𝍸 I	6
Minivan	|||	3
Convertible	𝍸	5

b)

People per square kilometre

Country	Tally	Number
Norway	𝍸 𝍸 ||||	14
Bolivia	𝍸 II	7
PNG	𝍸 𝍸	10
Iceland	|||	3

c)

Drive - a - thon

Driver	Lap Tally	Number
F. Alonso	𝍸 |||	8
G. Fisichella	𝍸 𝍸 I	11
A. Suzuki	𝍸 ||||	9
M. Schumacher	𝍸 I	6

d)

Factors of the numbers 1 to 10

Factor	Tally	Number
2	𝍸	5
3	III	3
4	II	2
5	II	2

e)

Books in a series

Series	Tally	Number
Underland Chronicles	𝍸	5
Deltora Quest	𝍸 |||	8
Mary Poppins	𝍸 II	7
The Bliss Bakery	|||	3

f)

Eyelets in shoes

Shoe Type	Tally	Number
Runner	𝍸 𝍸 ||||	14
Boat shoe	||||	4
School shoe	𝍸 |||	8
Men's dress shoe	𝍸 𝍸	10

g)

Days of rain in May 2011

City	Tally	Number
Canberra	||||	4
Perth	𝍸 ||||	9
Brisbane	𝍸 |||	8
Adelaide	𝍸 𝍸 |||	13

h)

Average sunlight hours per day in Paris

Month	Tally	Number
January	II	2
April	𝍸 I	6
July	𝍸 |||	8
October	||||	4

i) 30

Total goals in the 2011 AFL grandfinal

Quarter	Tally	Number
1st	𝍸 |||	8
2nd	𝍸 ||||	9
3rd	𝍸 |||	8
4th	𝍸	5

j) 13

'Honorificabilitudinitatibus'

Vowel	Tally	Number
a	II	2
i	𝍸 II	7
o	II	2
u	II	2

k) 16

'Supercalifragilisticexpialidocious'

Vowel	Tally	Number
a	|||	3
e	II	2
i	𝍸 II	7
o	II	2
u	II	2

l) 42

Scrabble tiles	Tally	Number
A	𝍸 ||||	9
E	𝍸 𝍸 II	12
I	𝍸 ||||	9
O	𝍸 |||	8
U	||||	4

Skill 18.4 a) A, b) A, c) B, d) B, e) A, f) B, g) B, h) B, i) B, j) B, k) C
l) D, m) B, n) A, o) C, p) D

Skill 18.5 a) 8, b) poppy, c) 2 hours, d) 9, e) sheep, f) 15 dollars
g) 2012, h) Thailand, i) Adelaide, j) 8

Skill 18.6 a) 3, b) shark, c) 4 years, d) 6 years, e) 6, f) $1, g) 30 cm
h) Japan, i) Netherlands, j) 45 metres

Skill 18.7 a) B, b) A, c) A, d) B, e) A, f) A

Skill 18.8 a) pink, red, b) 1, 2, 3, 4, 5, 6, c) A, 1, B, 2
d) 0, 10, 40, 70, 100, e) 1, 3, 5, 7, 9, 11, f) 1, 2, 5, 10

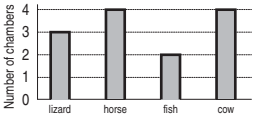
Skill 18.9 a)

Simpson	Number of spikes
Bart	9
Lisa	8
Maggie	8

b)

Student	Number
Addison	5
Finn	4
Rosey	6

c)



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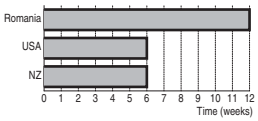
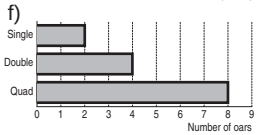


e)

Earth Feature	Number
Oceans	5
Continents	7
Moons	1

f)



g)

Film series	Number of films
Toy Story	3
Harry Potter	8
Shrek	5
Transformers	4

h)

Month	Average sunlight hours per day
January	1
April	5
July	6
October	3

Skill 18.10 a) 11, b) 6, c) 26, d) 7, e) 10, f) 7, g) 21, h) 28

Skill 18.11 a) A, b) C, c) C, d) B, e) B, f) C