NUMBER 1

MARK

1

1. Arrange the following numbers in order from the smallest to the largest:
435 354 534 433 544 345

_____ _____ _____ _____ _____ _____

2. Find the following numbers.

(a) This number has six hundreds, seven tens and two units.

(b) This number has eight tens, three hundreds and one unit.

(c) This number has two thousands, seven hundreds, nine tens and no units.

(d) This number has seven units, no tens, five thousands and four hundreds.

(e) This three digit number has seven units. It has the same number of tens as hundreds. The sum of the three digits is 11.

3. Write the following numbers in numeral form.

Example **Five** in numeral form is **5**.

(a) Two hundred and seventy-nine.

(b) Three thousand, four hundred and one.

(c) Eight hundred and three thousand, two hundred and sixty-four.

4. Write the following numbers in words.

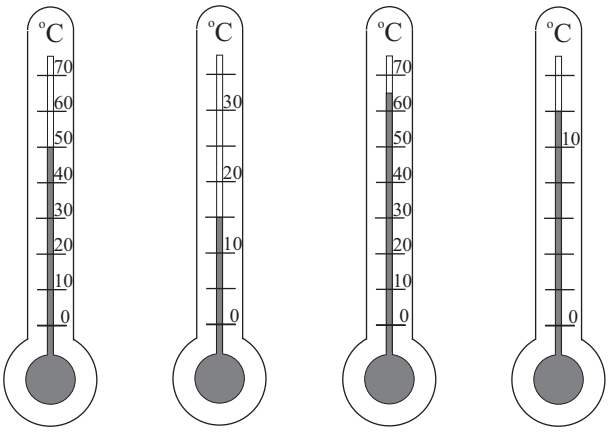
(a) 509

(b) 25 694

(c) 8 723 051

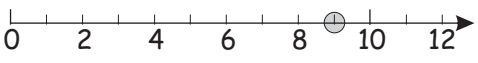
5. Read the temperatures shown on the thermometers below.

(a) (b) (c) (d)

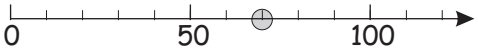


6. Write the number shown by the dot on each number line below.

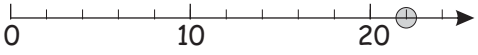
(a)



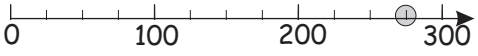
(b)



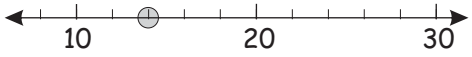
(c)



(d)

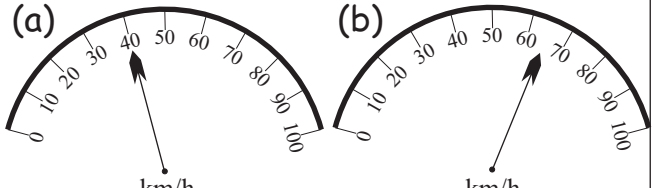


(e)



7. What speeds are shown on the speedometers below?

(a) (b)



8. Find numbers hidden in the following sentences.

Example Danielle won every award.

(a) The brave Steffi ventured into the dark gloomy cave.
(b) Kent went yowie spotting.
(c) Laurel eventually broke the school record for the long jump after several tries.
(d) A keyboard is used for typing.
(e) Garth reeled in a huge fish.

9. Find the numbers represented by these words.

(a) dozen (b) century

(c) pair (d) gross

(e) score (f) trio

10. Rearrange the letters from the following phrases to spell numbers. The numbers are all between 20 and 70.

(a) shivery tent _____

(b) stony fever _____

(c) new toy net _____

(d) twisty ox _____

(e) very fit hit _____

NUMBER 2

MARK

2

1. The table below shows the approximate population of 10 cities.

City	Population
Bangkok	8 480 000
New York	8 690 000
Cairo	11 920 000
Beijing	21 580 000
Mexico City	8 970 000
Tokyo	9 070 000
Melbourne	4 650 000
Sao Paulo	11 900 000
Delhi	9 890 000
London	8 630 000

(a) In the table below list these cities in order from the largest at the top to the smallest at the bottom.

City	Population

(b) Find the difference between the populations of Cairo and Beijing.

(c) Find the sum of the populations of the capital cities of China, Japan and Egypt.

(d) If 50 000 people moved from Mexico City to New York, what would be the population of each city?

Mexico City	
New York	

2. Add 10 to each of the following numbers.

(a) 25 (b) 374

(c) 8 (d) 1240

(e) 391 (f) 5990

3. Add 1000 to each of the following numbers.

(a) 7812 (b) 13 521 (c) 176

(d) 2 (e) 19 206 (f) 99 909

4. Six friends played a new computer game. They scored the following points.

Rob - 321 567 Louise - 321 158
Stefan - 312 576 Lee - 312 756
Marcus - 321 675 Nicholas - 315 276

(a) What was the highest score?

(b) What was the lowest score?

(c) What is the difference between the highest and lowest scores?

(d) Rob played the game again and the total of his two scores was 644 859. What was his score in his second game?

(e) Louise played the game again and scored 2583 more than her first score. What was her score in her second game?

5. Fill in the missing numbers in the following calculations.

(a)
$$\begin{array}{r} 2\,3\square \\ +\ \square\,5\,1 \\ \hline 8\square\,9 \end{array}$$

(b)
$$\begin{array}{r} 6\,5\square\,5 \\ +\ \square\,9\,3\square \\ \hline 9\square\,4\,1 \end{array}$$

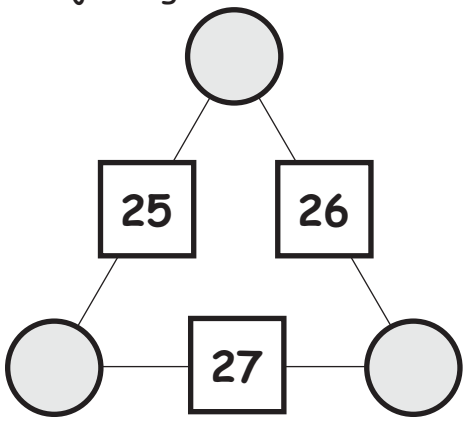
(c)
$$\begin{array}{r} 5\square\,6 \\ -\ \square\,5\,0 \\ \hline 3\,3\square \end{array}$$

(d)
$$\begin{array}{r} 8\,5\square\square \\ -\ 4\square\,9\,8 \\ \hline \square\,8\,0\,9 \end{array}$$

6. Sally is 4 years older than Fiona. The sum of their ages is 40. Find their ages.

Sally Fiona

7. Write numbers in the circles below so that the numbers in the squares are the sum of the numbers in the two adjoining circles.



8. Circle the numbers below that add to 100.

NUMBER 3

MARK

3

1. The minimum and maximum temperatures on a particular day for five cities are given below.

City	Minimum Temp (°C)	Maximum Temp (°C)
Amsterdam	⁻1	8
Berlin	⁻3	11
Oslo	⁻13	⁻4
Paris	⁻2	10
Toronto	⁻17	1

By how many degrees did the temperature change in each city?

City	Change in Temp (°C)
Amsterdam	
Berlin	
Oslo	
Paris	
Toronto	

2. The minimum temperature in Tokyo was ⁻6°C. The temperature rose by 11 degrees during the day. What was the maximum temperature in Tokyo on that day?

3. Meredith had a calculator that had the **6** button broken. She was trying to work out the following problem:

486 + 397

Meredith solved this problem by pressing the following buttons on her calculator:

485 + 1 + 397 =

(a) Write down another way she could have solved this problem on her calculator.

(b) Show how Meredith could solve the following problems on her calculator.

465 + 781

640 - 297

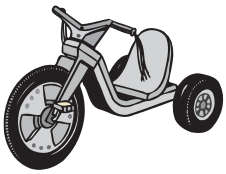
7261 + 3686

3678 - 569

589 × 6

4. Xavier owned a number of scooters and go-carts. He wanted to change all the wheels on his scooters and go-carts. He counted a total of 40 wheels and he had eight scooters. How many go-carts did Xavier own?

5. Rowan makes bicycles and tricycles. He has an order for 10 cycles and needs 27 wheels.
How many bicycles and how many tricycles are in the order?

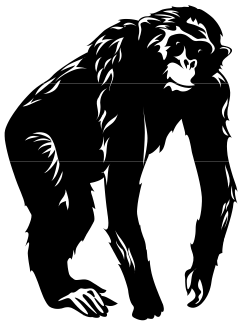


Bicycles **Tricycles**

6. At the zoo it was found that 4 monkeys could eat 4 bananas in 4 minutes.
(a) How many minutes would it take 1 monkey to eat 1 banana?

(b) How many minutes would it take 8 monkeys to eat 16 bananas?

(c) How many monkeys would it take to eat 10 bananas in 8 minutes?



7. Change **ADD** into **SUM** in five steps by changing one letter at a time to form a new word.

Example
CAT can be changed into **DOG** in three steps.
CAT
COT
DOT
DOG

A	D	D
S	U	M

NUMBER 4

MARK

4

1. Complete the following multiplication tables.

×	5	2	6	9	3	7	10	4	8
10									
3									
6									
4									
5									
7									
8									
2									
9									

×									
	10		15		20		35		30
		48		30		60		54	
	6		9		12		21		18
		32		20		40		36	
	20		30		40		70		60
		64		40		80		72	
	14		21		28		49		42
		16		10		20		18	
	18		27		36		63		54

2. Complete the following calculations.

(a) 637 × 8 = _____

_____

(b) 6 | 2922

3. Complete the following calculations.

(a) 8215 × 34 = _____

_____

_____

(b) 4 | 27276

(c) 9 | 50472

4. Find A and B.

A = B =

$$\begin{array}{r} 123 \\ \times\ A \\ \hline AB2 \end{array}$$

5. Find the following numbers.

(a) The product of these two numbers is 15. ☐ ☐

(b) The product of these two numbers is 48. Their sum is 14. ☐ ☐

(c) The product of these two numbers is 72. The difference between them is 1. ☐ ☐

6. (a) List the first four prime numbers. ☐ ☐ ☐ ☐

(b) Find the sum of the first six prime numbers. ☐

(c) Find the largest two digit prime number. ☐

7. (a) How many days are in eight weeks?

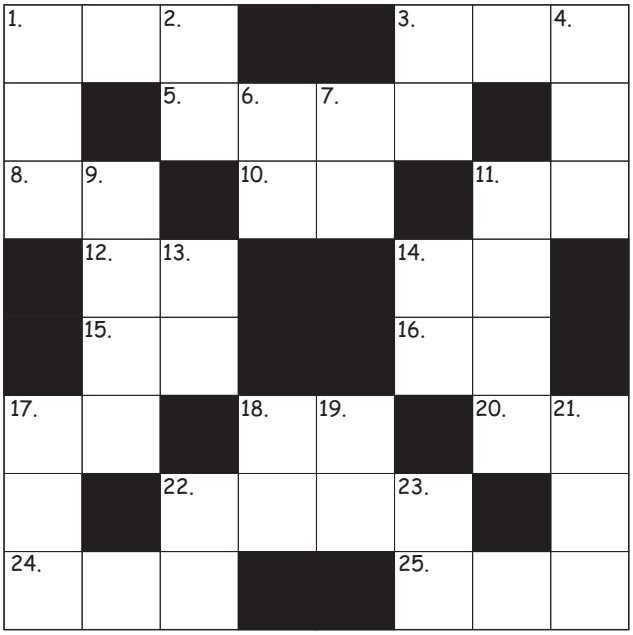
(b) How many eggs are in three dozen?

8. Jay owned a number of chooks. Each chook laid one egg every day. In one week Jay collected 14 dozen eggs.
How many chooks did Jay own?

9. Mitchell offered to clean his neighbour's car one day each week for the eight weeks of his school holidays.
His neighbour, Mr. Wilson, said he would pay Mitchell $6 each time he cleaned the car.
(a) How much would Mitchell earn for the eight weeks?

Mitchell said to Mr. Wilson he would clean the car for 20 cents in the first week if he could have his pay doubled each week.
(20 cents in week 1, 40 cents in week 2, 80 cents in week 3, etc).
(b) How much would Mitchell get paid for the eight weeks if he was paid this way?

10. Complete this puzzle.



Clues

Across

1. 87 × 3
3. 2 × 2 × 2 × 7 × 9
5. Eight thousand, one hundred and twenty-six
8. 9 × 9
10. Days in nine weeks
11. One dozen
12. (10 - 8) × (29 + 8)
14. Half of 68
15. 90 ÷ 3
16. 100 - 13
17. 2 × 2 × 2 × 2 × 2 × 2
18. Two less than one hundred
20. 2 × 31
22. 76 × 88
24. 880 ÷ 8
25. 4830 ÷ 5

Down

1. 62 × 4
2. 3 × 6
3. The product of eight and seven
4. 884 ÷ 2
6. Two more than half of 28
7. 207 ÷ 9
9. 289 × 6
11. 41 × 3 × 3 × 2 × 2
13. 4000 ÷ 100
14. The sum of 9 and 29
17. 47 × 13
18. 24 × 4
19. 440 ÷ 5
21. 143 × 2
22. Five dozen
23. The difference between 176 and 87

11. Place the numbers 1, 2, 3, 4, 5, 6 and 7 into the spaces below to make the equation correct.

(__+__) × (__+__) ÷ (__+__) =__

NUMBER 5

MARK

5

1. Find, and circle, from the list below, the **two** calculations that would give the same answer as: **8 × 12**

A 4 × 4 × 12 **B** 4 × 2 × 4 × 3
C 4 × 2 × 6 × 2 **D** 4 × 2 × 6 × 6

2. Find, and circle, from the list below, the **four** calculations that would give the same answer as: **12 × 50**

A 12 × 5 × 10 **B** 6 × 2 × 50
C 12 × 30 × 20 **D** 4 × 3 × 50
E 6 × 6 × 50 **F** 4 × 3 × 2 × 25

3. Find, and circle, from the list below, **all** the calculations that would give the same answer as: **16 × 25**

A 8 × 50 **B** 4 × 4 × 5 × 5
C 8 × 2 × 25 **D** 2 × 8 × 5 × 5
E 4 × 2 × 50 **F** 4 × 100

4. List four calculations that would give the same answer as:

24 × 36

_____

_____

_____

_____

5. Amelia's calculator has the **6** button broken. She wanted to solve the following problem:

16 × 64

Amelia solved this problem by pressing the following buttons on her calculator:

2 × 8 × 8 × 8 =

Show how Amelia could solve the following problems on her calculator.

(a) 6 × 24 (b) 36 × 16

_____ _____

(c) 6 × 56 (d) 66 × 106

_____ _____

6. Some problems can be changed into easier forms so they can be solved using mental arithmetic.

Example: 18 × 50
= 9 × 2 × 50
= 9 × 100
= **900**

Show how the following problems could be made easier and solved.

(a) 16 × 50 (b) 14 × 25

_____ _____

_____ _____

_____ _____

7. Solve the following problems.

(a) 30×10 (b) 20×100

(c) 500×20 (d) 60×40

(e) $600 \div 3$ (f) $800 \div 40$

(g) $1000 \div 50$ (h) $3600 \div 30$

8. (a) What would be the total cost of 20 CD's, if each CD cost $30?

(b) How many 50 gram Easter eggs would be in a 300 gram box?

9. Round the following numbers to the nearest 10.

(a) 18 (b) 29 (c) 61

(d) 8 (e) 118 (f) 243

10. Find the approximate answer to each of the following problems by rounding to the nearest 10 first.

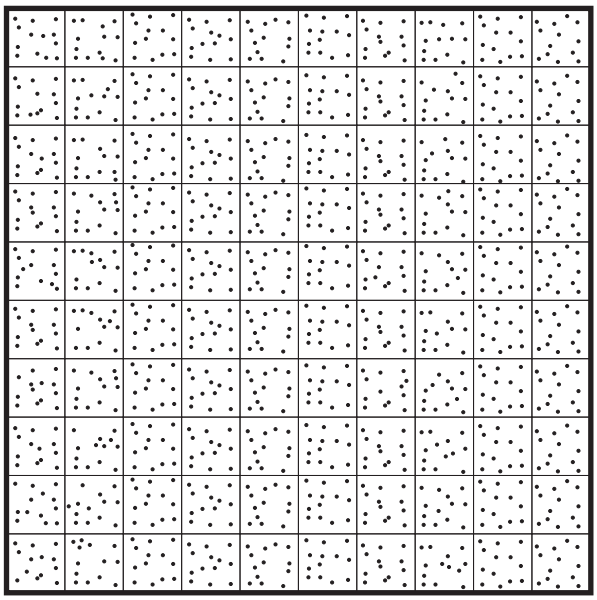
Example: 18×33
$= 20 \times 30$ (after rounding)
$= \mathbf{600}$

(a) 29×81 (b) 67×19

11. Michael is a ranger at a state park. He wants to count the number of koalas in the park. He counted 18 koalas in one hectare. The park is 83 hectares.
Which of the following alternatives is the best estimate of the number of koalas in the park?

A 800 **B** 1600
C 900 **D** 1800

12. Paul is a sheep farmer. He wanted to find out how many sheep he owned. He took a photo of his farm from an aeroplane. This photo is shown below with a grid drawn on it. The sheep are all the dots.



(a) Guess how many sheep are on the farm.

(b) How many squares are in the grid?

(c) How many sheep are in one square of the grid?

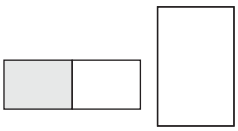
(d) Use the answers from (b) and (c) to calculate the approximate number of sheep on the farm.

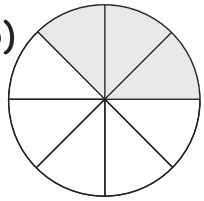
FRACTIONS 1

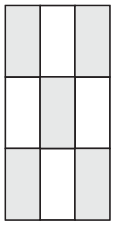
MARK

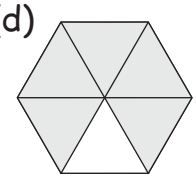
6

1. What fraction of each of the following shapes is shaded?

(a) 

(b) 

(c) 

(d) 

2. What fraction is shown by the dot on each of the number lines below.

(a) 0 — 1

(b) 0 — 1

(c) 0 — 1

(d) 0 — 1

3. Write these fractions in words.

Example: $\frac{2}{5}$ is **two-fifths**

(a) $\frac{5}{8}$ _____

(b) $\frac{7}{10}$ _____

(c) $\frac{3}{4}$ _____

4. Write these fractions in numeral form.

(a) nine-tenths

(b) five-sevenths

5. Use a ruler to measure the length of the box below.
Use this measurement to help you colour in one-fifth of the box red, two-fifths yellow and two-fifths green.

6. (a) Measure the box below.
Colour one-quarter of the box blue, one-eighth orange, half of the box purple and the rest of it black.

(b) What fraction of the box is coloured black?

7. If 1 kg of chocolate costs $4, find the cost of the following amounts.

(a) $\frac{1}{4}$ kg

(b) $\frac{1}{2}$ kg

(c) $2\frac{1}{2}$ kg

(d) $5\frac{3}{4}$ kg

(e) $1\frac{1}{8}$ kg

8. There were eight pets in a school pet show. Five were dogs. What fraction of the pets were dogs. ☐

9. Garry shot 10 arrows at a target. Three hit the bulls-eye.

(a) What fraction of his shots hit the bulls-eye? ☐

(b) What fraction of Garry's shots missed the bulls-eye? ☐

10. What fraction of a week is a day? ☐

11. Jemima competed in a race that was 16 kilometres long. She had to swim one-eighth of the race, ride half of the race and run the remainder of the race.
How many kilometres did she have to swim, ride and run?

Swim ☐ Ride ☐ Run ☐

12. One-third of the crowd at a football game between the Bulldogs and Crushers barracked for the Bulldogs.
If 4000 people barracked for the Bulldogs, how many barracked for the Crushers?

☐

13. Find the following amounts.

(a) $\frac{1}{5}$ of 20 ☐ (b) $\frac{2}{5}$ of 20 ☐

(c) $\frac{3}{5}$ of 20 ☐ (d) $\frac{4}{5}$ of 20 ☐

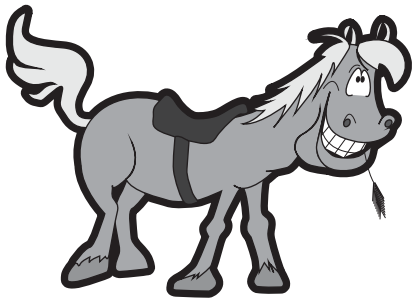
14. Find the answers to the following problems and place the answers in the boxes next to each problem.

$\frac{2}{5}$ of 50		L	$\frac{7}{8}$ of 40		E
$\frac{1}{2}$ of 24		T	$\frac{1}{2}$ of 84		N
$\frac{5}{6}$ of 30		E	$\frac{2}{3}$ of 15		S
$\frac{3}{4}$ of 20		A	$\frac{8}{9}$ of 54		I
$\frac{2}{3}$ of 60		N	$\frac{2}{3}$ of 75		S
$\frac{3}{7}$ of 70		T	$\frac{3}{4}$ of 24		B

Arrange the answers in order from the smallest to the largest and place in the top line of the boxes below. Place the letters under the numbers to spell the answer to the following riddle.
(The first answer is included)

What sport do horses like to play?

10											
S											



FRACTIONS 2

MARK

7

1. What fraction is shown on the following number lines?

(a) 0 — 1

(b) 0 — 1

(c) 0 — 1

2. Mark $\frac{1}{4}$ on the following number lines.

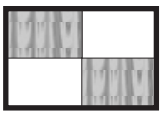
(a) 0 — 1

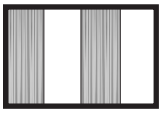
(b) 0 — 1

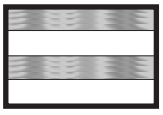
(c) 0 — 1

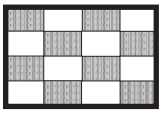
3. What fraction of each of the following shapes is shaded?

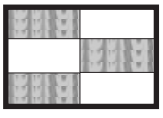
(a) 

(b) 

(c) 

(d) 

(e) 

(f) 

4. Shade **one-third** of each of the following shapes so that each shape is different.

5. Complete the following fractions.

Example $\frac{1}{2} = \frac{\square}{4}$ $\frac{1}{2} = \frac{\boxed{2}}{4}$

(a) $\frac{1}{3} = \frac{\square}{6}$ (b) $\frac{1}{4} = \frac{\square}{12}$

(c) $\frac{1}{5} = \frac{\square}{20}$ (d) $\frac{3}{4} = \frac{\square}{8}$

(e) $\frac{2}{3} = \frac{\square}{9}$ (f) $\frac{3}{5} = \frac{\square}{50}$

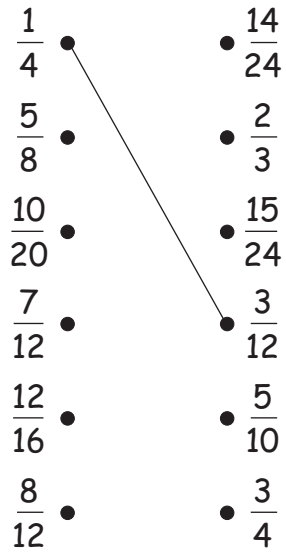
(g) $\frac{5}{6} = \frac{\square}{18}$ (h) $\frac{7}{10} = \frac{\square}{30}$

6. Write **three** fractions that are equal to the following fractions.

(a) $\frac{2}{5} =$

(b) $\frac{3}{8} =$

7. Connect with a line each pair of fractions that are equal. (One pair is joined as an example)



8. Circle the largest fraction in the following pairs of fractions.

(a) $\frac{1}{3}$ $\frac{3}{6}$ (b) $\frac{3}{8}$ $\frac{1}{4}$ (c) $\frac{3}{4}$ $\frac{5}{8}$

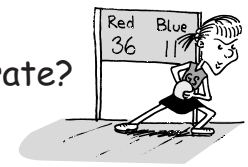
9. Arrange the following groups of fractions in order from the smallest to the largest.

(a) $\frac{1}{2}$ $\frac{1}{4}$ $\frac{3}{8}$ ☐ ☐ ☐

(b) $\frac{3}{10}$ $\frac{2}{5}$ $\frac{7}{20}$ ☐ ☐ ☐

10. What fraction of the year is winter? Write your answer two ways. ☐ ☐

11. In a game of netball Stephanie had 12 shots at goal and scored 8 goals. Zoe had 18 shots at goal and scored 10 goals. Who was more accurate? Explain your answer.



_____

_____

_____

12. On a school activities day one-third of the students went canoeing, one-quarter of the students went rock-climbing and the rest of the students went bush-walking.

(a) Which activity was most popular? Explain your answer.

_____

_____

_____

(b) Which activity was least popular? _____

13. (a) Which fraction rhymes with a young cow? _____

(b) Which fraction rhymes with the liquid found in baths, rivers and the sea? _____

(c) Which fraction rhymes with an animal that has feathers and wings? _____

(d) Which fraction can be found in rotten things? _____

14. Rearrange the letters from the following phrases to spell fractions.

Example: heel vent - **eleventh**

(a) white tent _____

(b) hens vet _____

(c) hot feet run _____

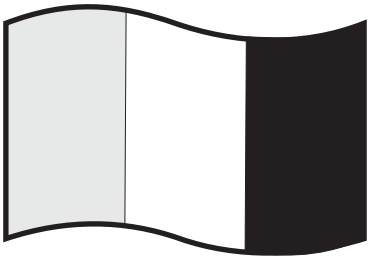
(d) fit thief _____

FRACTIONS 3

MARK

8

1. The three sections of the flag below are equal in size.

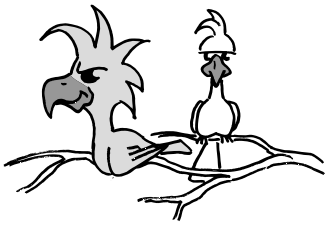


(a) What fraction of the flag is white?

(b) Colour in half the white section red.

(c) What fraction of the flag is red?

2. $3\frac{1}{4}$ kg of birdseed was divided into $\frac{1}{4}$ kg bags. How many of the small bags would there be?



3. (a) How many quarters are in 2?

(b) How many halves are in $5\frac{1}{2}$?

(c) How many thirds are in $4\frac{2}{3}$?

(d) How many eighths are in $3\frac{5}{8}$?

4. Change the following mixed numbers to improper fractions.

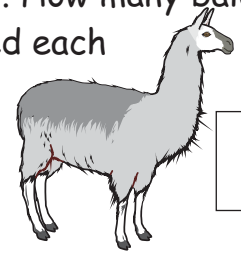
Example: $2\frac{3}{4} = \frac{11}{4}$

(a) $3\frac{2}{3}$ (b) $5\frac{1}{6}$

(c) $4\frac{4}{5}$ (d) $7\frac{5}{8}$

5. A length of material is cut into seven pieces each half a metre long. How long was the original length of material?

6. Emily owns nine llamas. She feeds each llama one quarter of a bale of hay each day. How many bales of hay does she need each day to feed her llamas?



7. Change the following improper fractions to mixed numbers.

Example: $\frac{13}{3} = 4\frac{1}{3}$

(a) $\frac{9}{2}$ (b) $\frac{15}{4}$

(c) $\frac{17}{5}$ (d) $\frac{35}{6}$

8. How many half hour shows could be taped on a 3 hour video tape?

9. It took one quarter of an hour for Jacques to ride his skateboard to school and the same time to ride home.
How many hours would Jacques spend riding his skateboard to school and home in a week?

10. Four people buy two pizzas to share. What fraction of a pizza does each person get?

11. Six oranges are cut into quarters and shared between eight people.
How many quarters does each person get?

12. Three litres of water are needed to fill four drink bottles.
How many litres are in each drink bottle?

13. A baker bought 10 bags of flour. Each bag weighed $6\frac{1}{2}$ kg.
What is the total weight of the 10 bags of flour?

14. A petrol container holds $2\frac{1}{2}$ litres.
How many of these containers would be needed to fill a 20 litre petrol tank?

15. Answer the following problems

(a) $\frac{1}{4} + \frac{1}{2}$

(b) $\frac{5}{8} - \frac{1}{4}$

(c) $2\frac{1}{3} + 3\frac{2}{3}$

(d) $5\frac{1}{2} + 3\frac{3}{4}$

(e) $6 - 4\frac{1}{5}$

(f) $3\frac{3}{8} - 1\frac{5}{8}$

(g) $4\frac{1}{2} \times 6$

(h) $2\frac{1}{3} \times 9$

16. A recipe for breakfast cereal requires $1\frac{1}{2}$ cups of rolled oats, $2\frac{3}{4}$ cups of wheat flakes, 1 cup of puffed rice and $\frac{3}{4}$ cup of sultanas.
How many cups of cereal would this recipe make?

17. Alex grew two pumpkins. One pumpkin was 1 kg heavier than the other and the total weight of the two pumpkins was 4 kg.
What was the weight of each pumpkin?

DECIMALS 1

MARK

9

1. Complete the following sentences.

Example: 5.73 has 5 units, 7 tenths and 3 hundredths

(a) 65.7 has 6_____,
5 _____ and 7 _____.
(b) 2.359 has 2_____, 3_____,
5 _____ and
9_____.

2. Find the following numbers.

(a) This number has six tens, two units and nine tenths.

(b) This number has four hundredths, five units and three tenths.

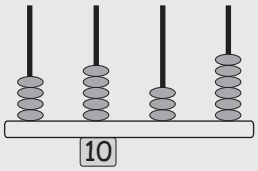
(c) This number has six thousandths, four tenths, seven units and one hundredth.

(d) This number has four units, three hundredths and no tenths.

(e) The sum of the three digits in this number is 11. There are four tens and five tenths.

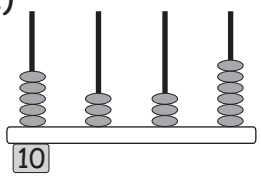
3. What number is shown on each spike abacus below. The place value of one of the spikes is given for each abacus.

Example

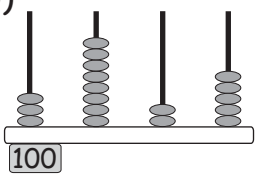


The number shown on this spike abacus is **453.6**

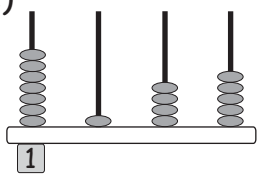
(a)



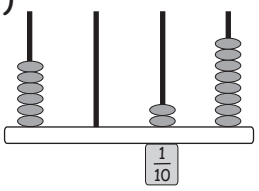
(b)



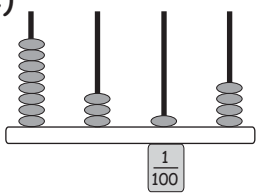
(c)



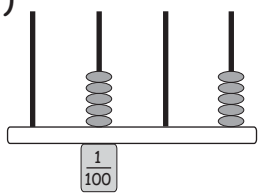
(d)



(e)



(f)



4. Write the following as decimal numbers.

Example: $6 + \frac{2}{10} = 6.2$

(a) $8 + \frac{3}{10}$ (b) $2 + \frac{7}{10} + \frac{1}{100}$

(c) $6 + \frac{9}{100}$ (d) $\frac{5}{100} + 4 + \frac{8}{10} + \frac{1}{1000}$

5. Circle the largest number in the following groups.

(a) 0.3 0.8 (b) 3.7 3.59

(c) 3.4 3.1 2.9 (d) 7.28 7.279

(e) 0.8 $\frac{9}{10}$ 0.75 (f) $\frac{6}{100}$ 0.059

6. Write the correct symbol (< or >) between the following numbers.

Examples: $2.87 > 2.79$ $2.4 < 2\frac{6}{10}$

(a) 0.39 0.34 (b) 2.651 2.657

(c) 8.6 $8\frac{9}{10}$ (d) 3.5 $3\frac{9}{100}$

7. Arrange the following numbers from the smallest to the largest.

(a) 2.8 2.4 3.1 3.8 2.7 3.0

____ ____ ____ ____ ____ ____

(b) 4.09 3.60 3.48 4.71 4.28

____ ____ ____ ____ ____

(c) 2.314 2.413 2.143 2.134

____ ____ ____ ____

8. **Add one tenth** to each of the following numbers.

(a) 6.2 (b) 3.15 (c) 10.06

(d) 12 (e) 6.9 (f) 13.99

9. **Add one hundredth** to each of the following numbers.

(a) 0.82 (b) 6.134 (c) 8.4

(d) 27 (e) 5.79 (f) 2.893

10. Judy has four cats. The weight of each cat is stated below. List the cats from the lightest to the heaviest.

Mog - 2.325 kg Mif - 2.329 kg

Min - 2.319 kg Mit - 2.320 kg

_____ _____ _____ _____.

11. Complete the following patterns.

(a) 0.5, 0.6, 0.7, 0.8, ___, ___, ___.

(b) 1.5, 2.0, 2.5, 3.0, ___, ___, ___.

(c) 0.1, 0.2, 0.4, 0.8, ___, ___, ___.

12. Find the number **midway** between the following pairs of numbers.

(a) 1.6 ☐ 1.8 (b) 2.3 ☐ 2.9

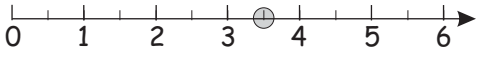
DECIMALS 2

MARK

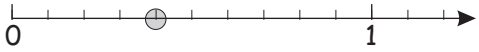
10

1. Write the number shown by the dot on each of the following number lines.

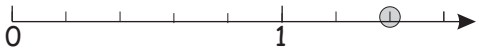
(a)



(b)

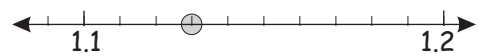


(c)



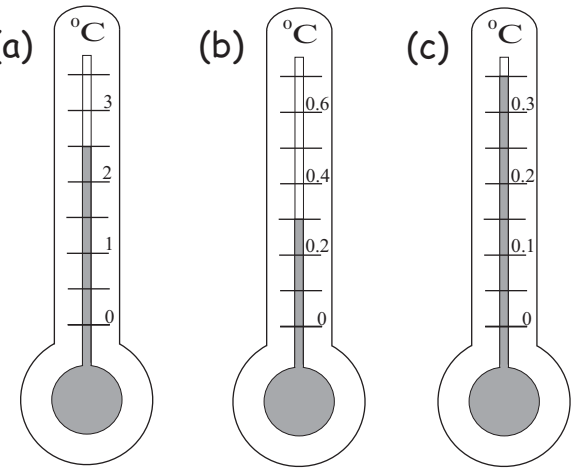
(d)

(e)



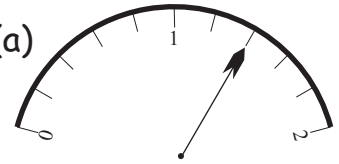
2. Read the temperature shown on each thermometer below.

(a) (b) (c)

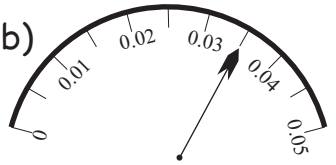


3. Write the number shown on each meter below.

(a)



(b)



4. Change the following fractions to decimal numbers.

(a) $\frac{1}{2}$ (b) $\frac{1}{4}$ (c) $\frac{3}{4}$

(d) $3\frac{1}{4}$ (e) $5\frac{1}{2}$ (f) $9\frac{3}{4}$

5. Arrange the following numbers in order from the smallest to the largest.

6.8 6.55 $6\frac{3}{4}$ $6\frac{1}{2}$ $6\frac{1}{4}$ 6.2 $6\frac{1}{10}$ 6.49 $6\frac{7}{10}$ 6.38

____ ____ ____ ____ ____

____ ____ ____ ____ ____

6. (a) How many tenths are in one unit?

(b) How many hundredths are in one-tenth?

(c) How many tenths are in six units?

(d) How many hundredths are in two units?

(e) How many hundredths are in one-half?

7. In a school swimming competition the 25 metre race was won by Joseph. Dene came second and Edgar came third.
The school record for the race was 18.9 seconds and Joseph swam one-tenth of a second faster than this record.
Dene was three-tenths of a second slower than Joseph.
Edgar was one second slower than Joseph.
(a) Find the time taking by each swimmer.

Joseph	Dene	Edgar
sec	sec	sec

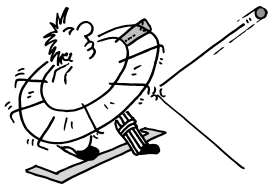
(b) How many seconds behind Dene was Edgar?

sec

8. A bag contained 11 balls - some tennis balls and some cricket balls.
The total weight of the 11 balls was 2 kg.
Each tennis ball weighed 0.10 kg.
Each cricket ball weighed 0.25 kg.
Find the number of each type of ball.

The number of tennis balls.

The number of cricket balls.



9. Place the following numbers in the grid below so that each row, column and diagonal adds to 1.5.

0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9

DECIMALS 3

MARK

11

1. Complete the following calculations.

(a) 136.65 + 42.14 = _____

(b) 3871.47 + 529.8 = 62.644 _____

(c) 689.67 − 61.34 = _____

(d) 524.8 − 79.61 = _____

(e) 87.69 × 7 = _____

(f) 4.2 × 9.3 = _____

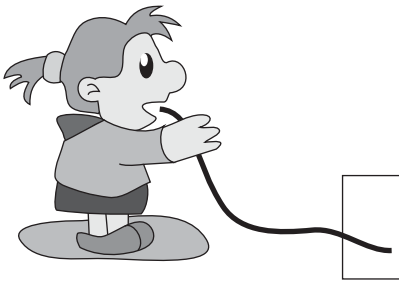
2. Add the following numbers.

67.2 105.69 728.094 3.008

3. Find the difference between 563.27 and 2647.5

4. Emma had a baby that weighed 2.86 kg when she was born. In the next three months the baby's weight increased by half a kilogram. Find the weight of the baby after three months.

5. Alexandra had a piece of licorice that was 2.65 metres long. One day she ate 1.28 metres of the licorice! How many metres of licorice were left?

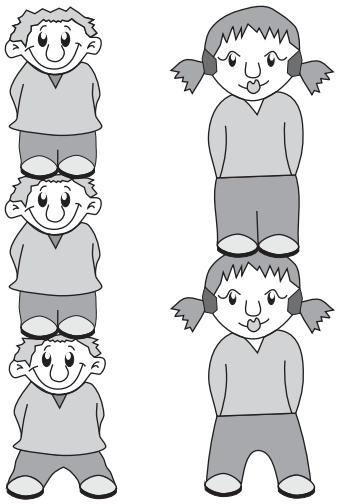


6. Nerada bought her lunch at school. She bought a sandwich ($1.75), drink ($1.35) and three fruit bars (each fruit bar cost 65c).

(a) Find the cost of Nerada's lunch.

(b) How much change would Nerada receive from $10?

7. Dion, Dean and Declan were identical triplets.
Freya and Frida were identical twins.
They were all acrobats in a circus.
One act they performed involved Dion standing on Dean's head while Declan stood on Dion's head.
Next to the brothers, Freya stood on Frida's head.
The height of the three brothers was exactly the same as the two sisters.
The brothers were each 1.36 metres tall.
How tall was each sister?



8. (a) Guess the answer to this problem.
5.925 + 83.25 + 33.825

(b) Solve the problem using a calculator.

9. Solve the following problems using a calculator.

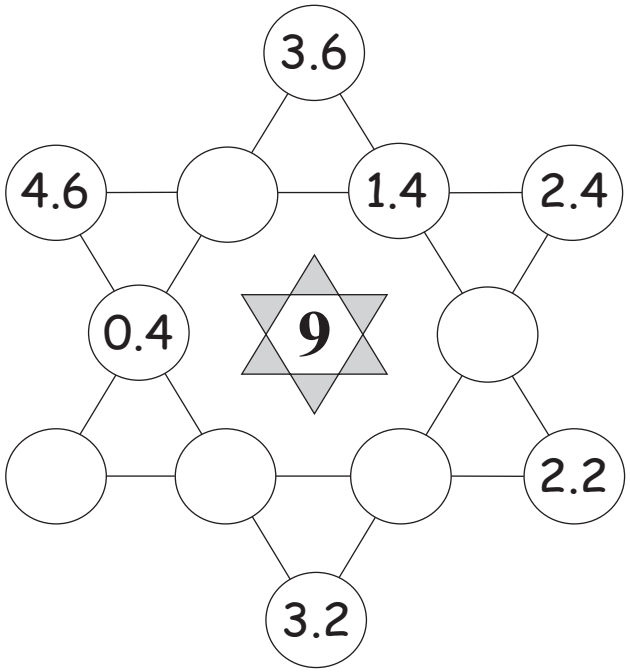
(a) $\dfrac{(3.741 + 5.059) \times (6.364 - 3.864)}{2.75}$

(b) Half of 69.768 kg

(c) Find the weight of 48 pineapples if each pineapple weighs 2.65 kg.

(d) A litre of olive oil cost $8.55. How many litres were in a container that cost $213.75?

10. Put numbers in the circles of the diagram below so that each line adds to the number in the centre.



11. Rearrange the letters in the following phrase to spell two words related to this work sheet.

A COLD MINT PIE

_____ _____.

PERCENTAGES

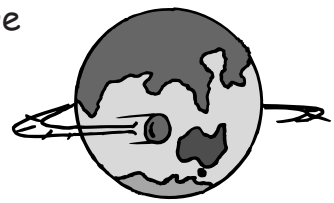
MARK

12

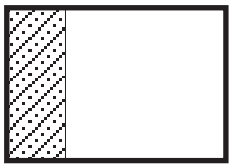
1. Complete the following table.
The first line has been completed as an example.

Fraction	Decimal	Percentage
$\frac{1}{10}$	0.1	10%
	0.3	
		70%
	0.9	
$\frac{1}{4}$		
	0.75	
		50%
	$0.\dot{3}$	
$\frac{2}{3}$		
	1	
		150%
	2	
$2\frac{1}{4}$		

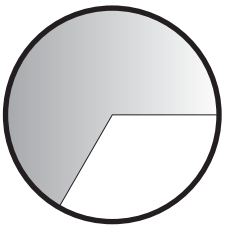
2. Approximately 70% of the earth's surface is oceans.
What percentage is land?



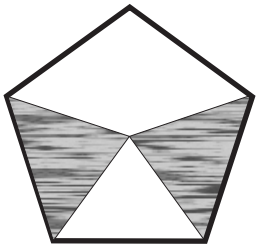
3. Choose which of the percentages is the best estimate of the shaded area of each shape below.

(a) 

A 10% **B** 25%
C 75% **D** 90%

(b) 

A 30% **B** 50%
C 70% **D** 90%

(c) 

A 20% **B** 40%
C 60% **D** 80%

4. 87% of the students at a school were right-handed.
What percentage of the students were left-handed?

5. 78% of the Earth's atmosphere is nitrogen and 21% of the atmosphere is oxygen.
What percentage of the atmosphere is other gases?

Ar CO_2 He O_2 H_2O N_2 H_2 CH_4

6. (a) Use the map of Australia to match the states listed below with the approximate percentage of the area of Australia each represents.
A 1% **B** 3% **C** 12% **D** 36%

(i) New South Wales ☐

(ii) Victoria ☐

(iii) Western Australia ☐

(iv) Tasmania ☐

(b) Use the figures from part (a) to answer the following questions.

(i) How many Tasmanias would 'fit into' Victoria? ☐

(ii) How many Victorias would 'fit into' NSW? ☐

(iii) How many NSWs would 'fit into' WA? ☐

7. Find the answers to the following problems and place the answers in the boxes next to the problems.

25% of 40		L	50% of 8		R
10% of 150		N	75% of 40		I
25% of 12		H	100% of 40		C
25% of 20		E	50% of 40		D
40% of 20		B	20% of 30		E
1% of 100		T	75% of 16		I
75% of 32		M	25% of 200		E

Arrange the answers in order from the smallest to the largest and place in the top lines of the boxes below. Place the letters under the numbers to spell the answer to the following riddle. (The first is included)
What has six eyes but can't see?

1				
T				

8. A sports store is offering a 25% discount off all items. What price will you pay for an $80 basketball? ☐

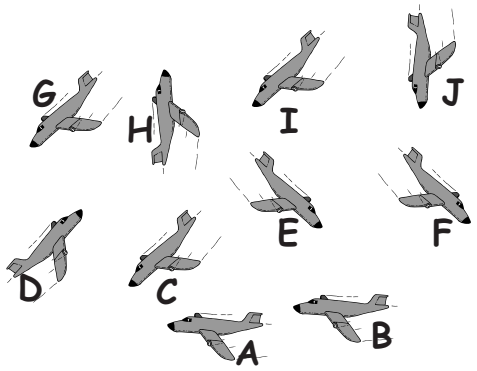
SHAPES 1

MARK

13

1. (a) Draw a **blue** line that is **parallel** to the line below.
(b) Draw a **red** line that is **perpendicular** to the line below.

2. At an air show there were 10 planes performing a display. The planes are shown below.
Planes A and B are flying horizontally.



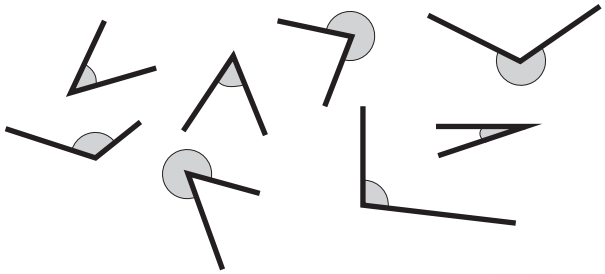
(a) Which planes are flying vertically? _____.
(b) Which planes are flying perpendicular to plane A? _____.
(c) Which planes are flying parallel to plane C? _____.
(d) Which planes are flying perpendicular to plane D? _____.

3. The capital letter ***A*** has one horizontal straight line.
(a) Which capital letters have **one** vertical straight line?

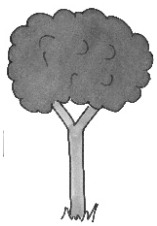
_____.

(b) Which capital letters have straight lines that are perpendicular? _____.
(c) Which capital letter has three straight lines that are parallel? ___.

4. Draw a circle around the angles below that are less than 90°.

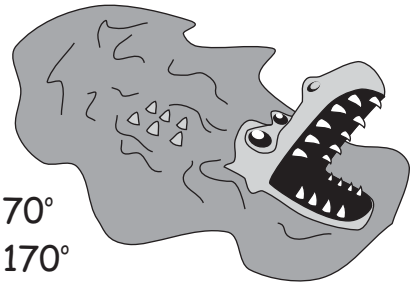


5. Circle the angle which is the best estimate of the angle this tree makes wit the ground.



A 30° **B** 45° **C** 90° **D** 180°

6. Circle the angle which is the best estimate of the angle between the crocodile's jaws.



A 20° **B** 70°
C 120° **D** 170°

7. The flagpole shown below is being supported by six cables.

(a) Guess which of the cables makes an angle of 45° with the ground?

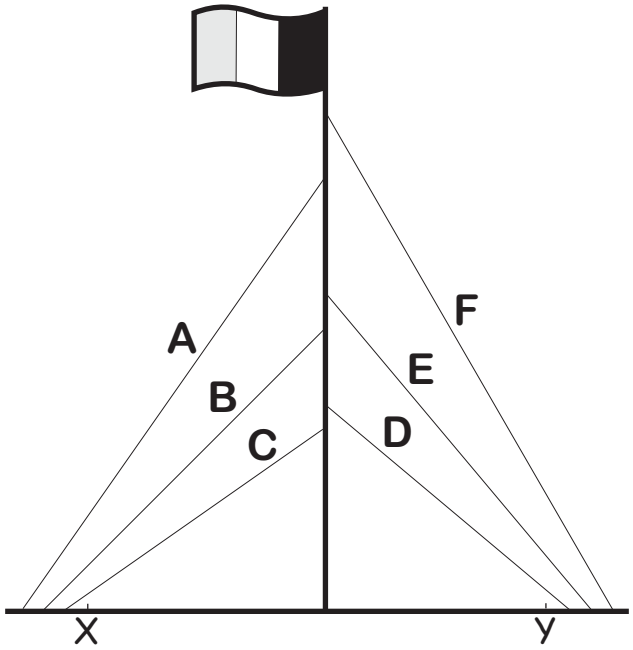
(b) Use the protractor to find the angle that cable A makes with the ground.

(c) Use a protractor to find which cable makes an angle of 45° with the ground.

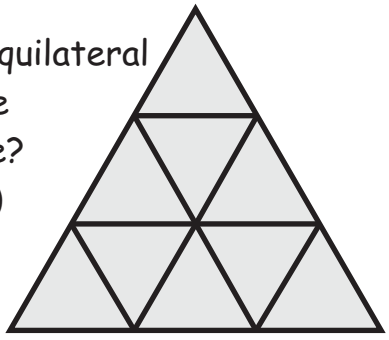
(d) What is the angle between cable F and the **flag pole**?

(e) Draw a line at an angle of 30° to the ground from point Y to the flagpole.

(f) Draw a line at an angle of 25° to the ground from point X to the flagpole.

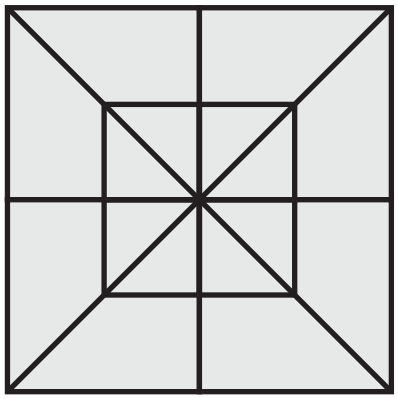


8. How many equilateral triangles are in this shape? (It is not 9!)

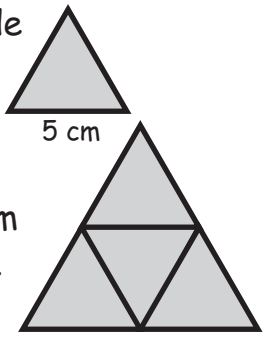


9. (a) How many squares are in the shape below?

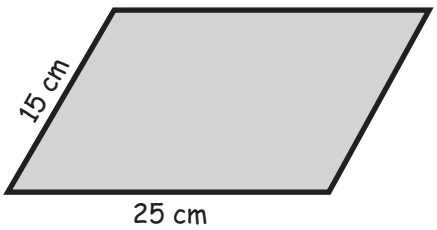
(b) How many right-angled triangles are in the shape below?



10. Peta uses tiles in the shape of equilateral triangles to make different shapes. The equilateral triangles have a side length of 5 cm. She can make an equilateral triangle of side length 10 cm using four of these tiles.



(a) How many tiles would be needed to make the shape below?



(b) Unscramble the letters from the following phrase to find the name of this shape.

A LARGE MAP ROLL

SHAPES 2

MARK

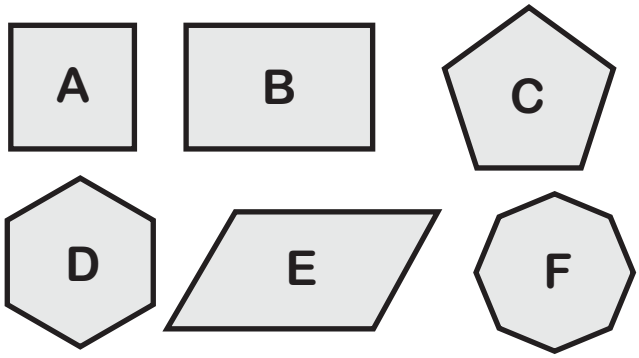
14

1. Match the shapes below with their names.

☐ octagon ☐ hexagon

☐ rectangle ☐ square

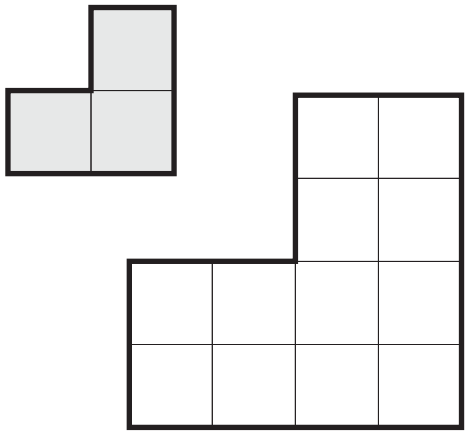
☐ parallelogram ☐ pentagon



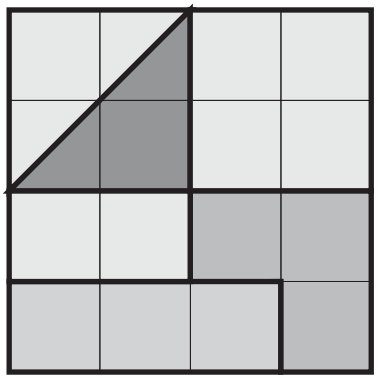
2. Which of the above shapes are quadrilaterals?

_____.

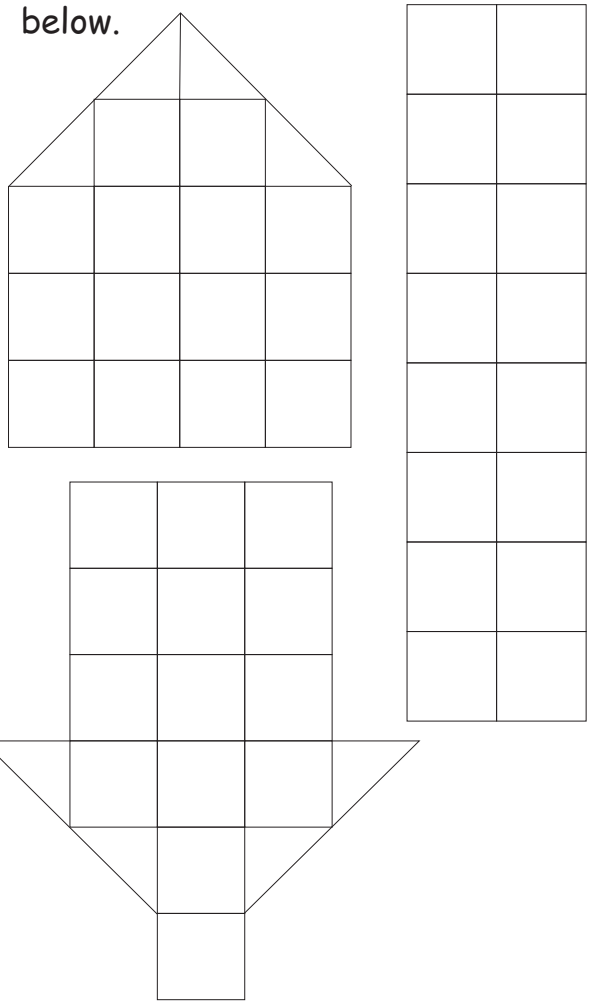
3. Show how **four** of the shapes shown here could be used to cover the grid below. Colour the four shapes different colours.



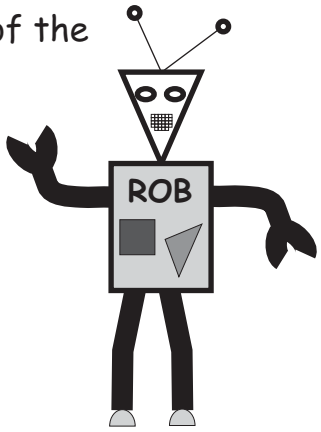
4. (a) Cut a piece of paper in a square with side lengths 8 centimetres.
(b) Cut this square into the six shapes shown below.

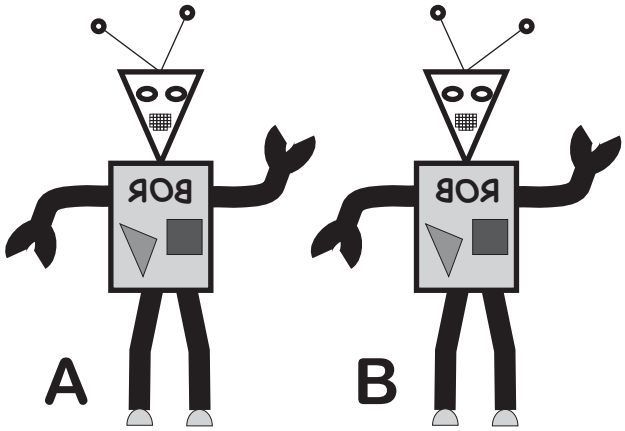


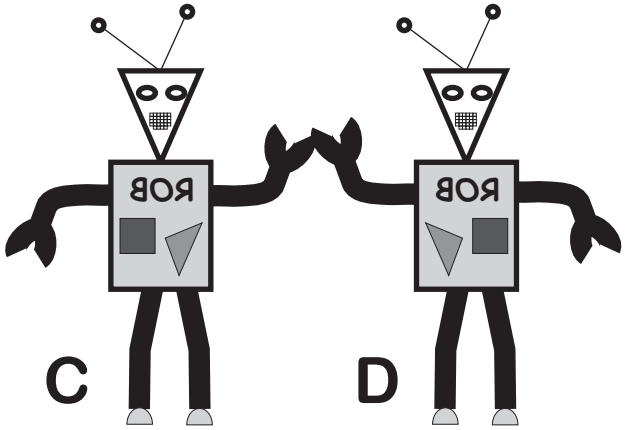
(c) Show how these six shapes can be rearranged to make the shapes below.

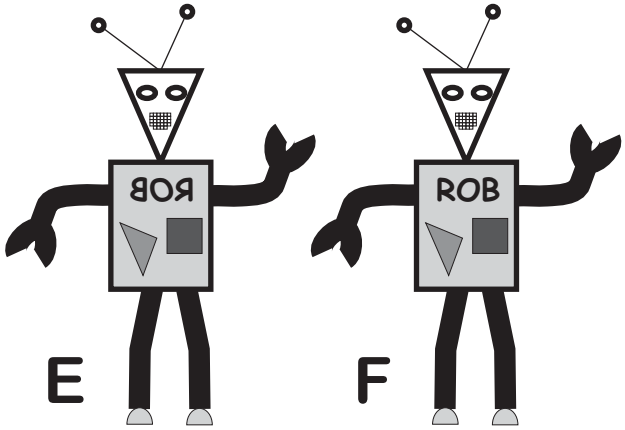


5. If the robot shown here looked in a mirror, which of the pictures below would be his reflection?

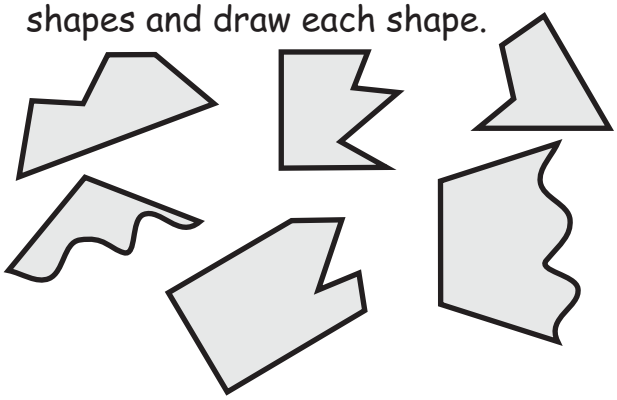








6. Three shapes have each been cut into two parts. All the parts have been rearranged and are shown below.
Match the pairs to form the three shapes and draw each shape.



7. The letters shown below are cut out of cardboard. List all the words you could make using these letters. The cardboard letters can be rotated or turned upside-down. See if you can get 15 words. (There are two words using all 5 letters).

p i u e t

SHAPES 3

MARK

15

1. The capital letter A has a vertical line of symmetry.

A

List all the other letters that have a vertical line of symmetry.

_____

_____

2. The capital letter B has a horizontal line of symmetry.

B

List all the other letters that have a horizontal line of symmetry.

_____

3. List all the letters that have vertical **and** horizontal lines of symmetry.

_____

4. The words below have a line of symmetry. Complete the words by drawing the other half of each word.

BOX

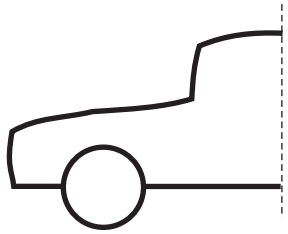
MU

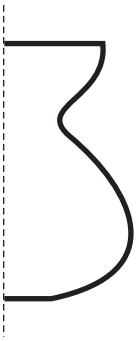
CHICK

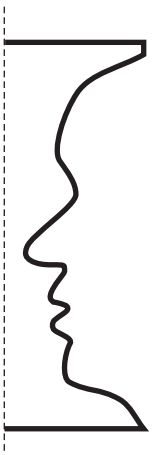
5. Write down three other words that have a line of symmetry.

_____ _____ _____.

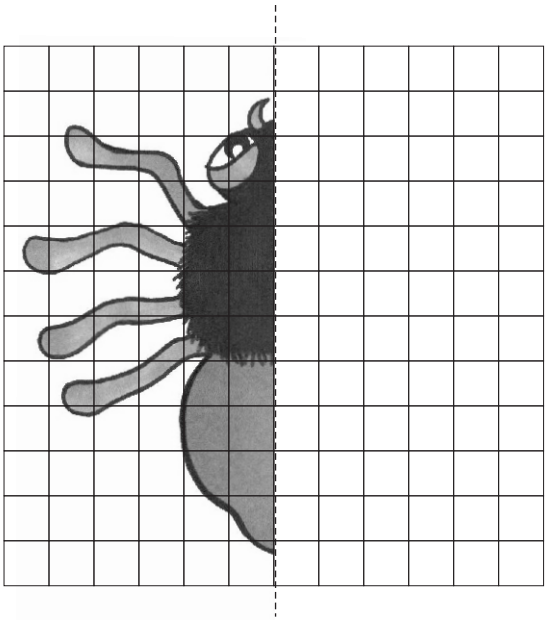
6. Complete the symmetrical shapes below by drawing the other half of each shape.
The lines of symmetry are shown.



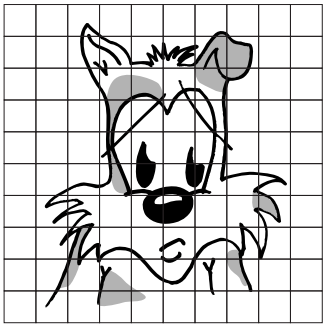




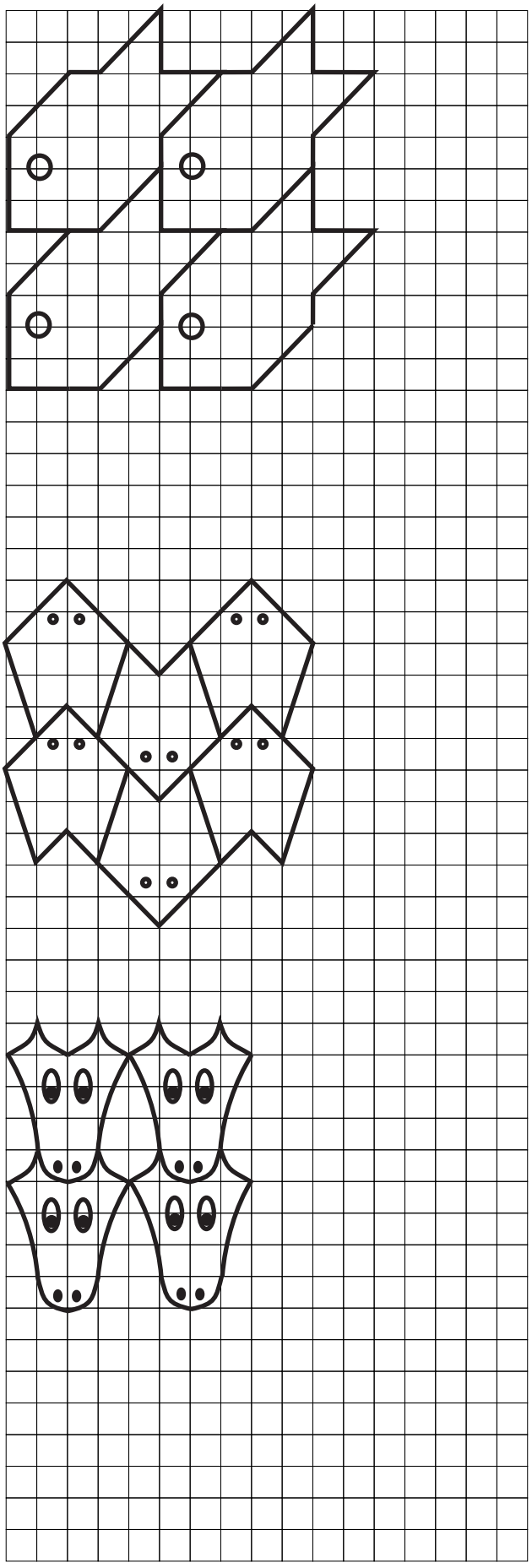
7. Complete the spider shown here by drawing the other half around the line of symmetry.



8. Draw an enlarged version of the dog shown here on the grid below.



9. Complete the tessellations shown below and colour in.



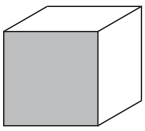
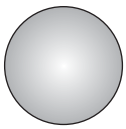
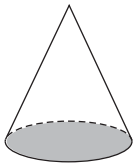
3 DIMENSIONS 1

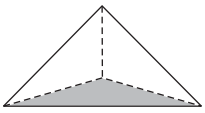
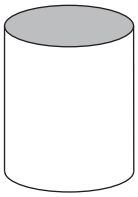
MARK

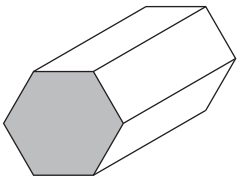
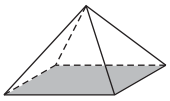
16

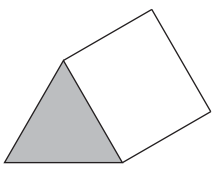
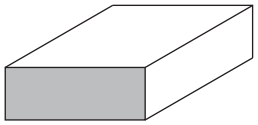
1. From the list below choose the correct name for each of the objects. Write the correct name under each object.

SQUARE-BASED PYRAMID
SPHERE CONE CUBE
RECTANGULAR PRISM(CUBOID)
HEXAGONAL PRISM
TETRAHEDRON CYLINDER
TRIANGULAR PRISM

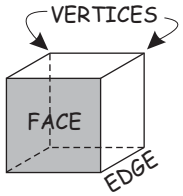



2. Without using a ruler, sketch a cube, cylinder, cone and square-based pyramid below.

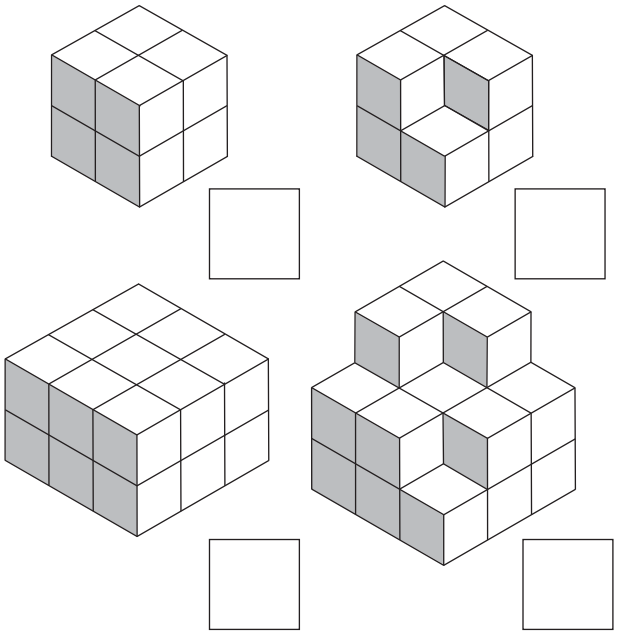
CUBE	**CYLINDER**
CONE	**SQUARE-BASED PYRAMID**

3. A cube has 6 faces, 8 vertices and 12 edges.
State the number of faces, vertices and edges in the following objects.

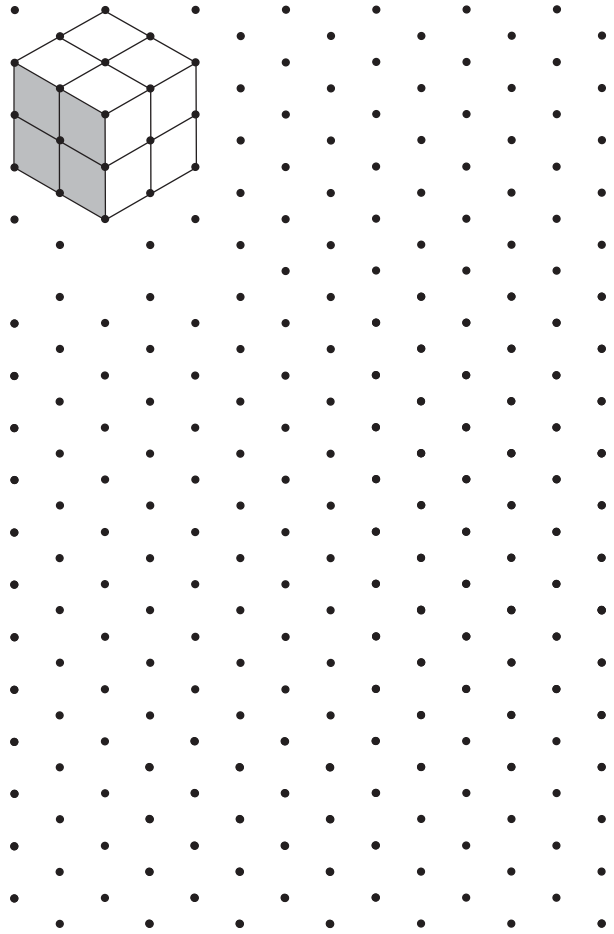


Object	Number of faces	Number of vertices	Number of edges
Tetrahedron			
Square-based Pyramid			
Triangular Prism			
Hexagonal Prism			

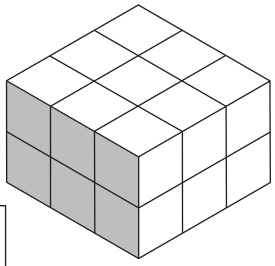
4. How many of the small blocks would be needed to make the following objects?



5. Draw the objects above on the dots below. One is drawn as an example.



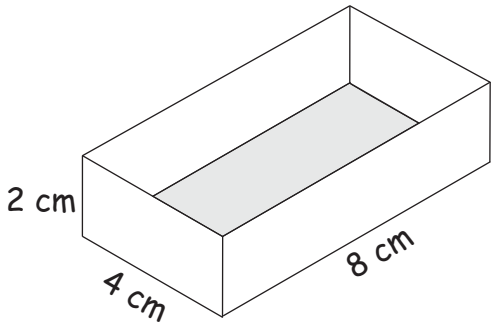
6. (a) How many small blocks would be needed to make this object?



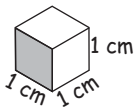
(b) If each of these small blocks are cubes with a side length of 1 cm, how high is this object? _____ cm

(c) If all the 1 cm cubes from this object are stacked on top of each other, how high would the stack be? _____ cm

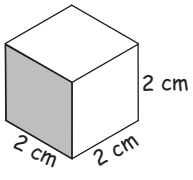
7. Tayla had a tray that was 8 cm long, 4 cm wide and 2 cm high.



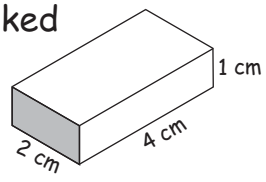
(a) How many cubes with side length 1 cm could be packed into this tray?



(b) How many cubes with side length 2 cm could be packed into this tray?



(c) How many blocks that are 4 cm long, 2 cm wide and 1 cm high could be packed into this tray?

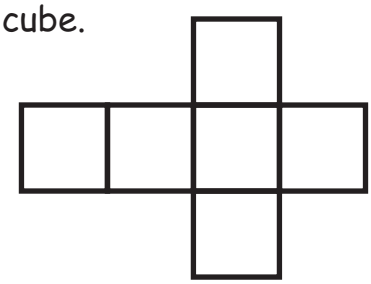


3 DIMENSIONS 2

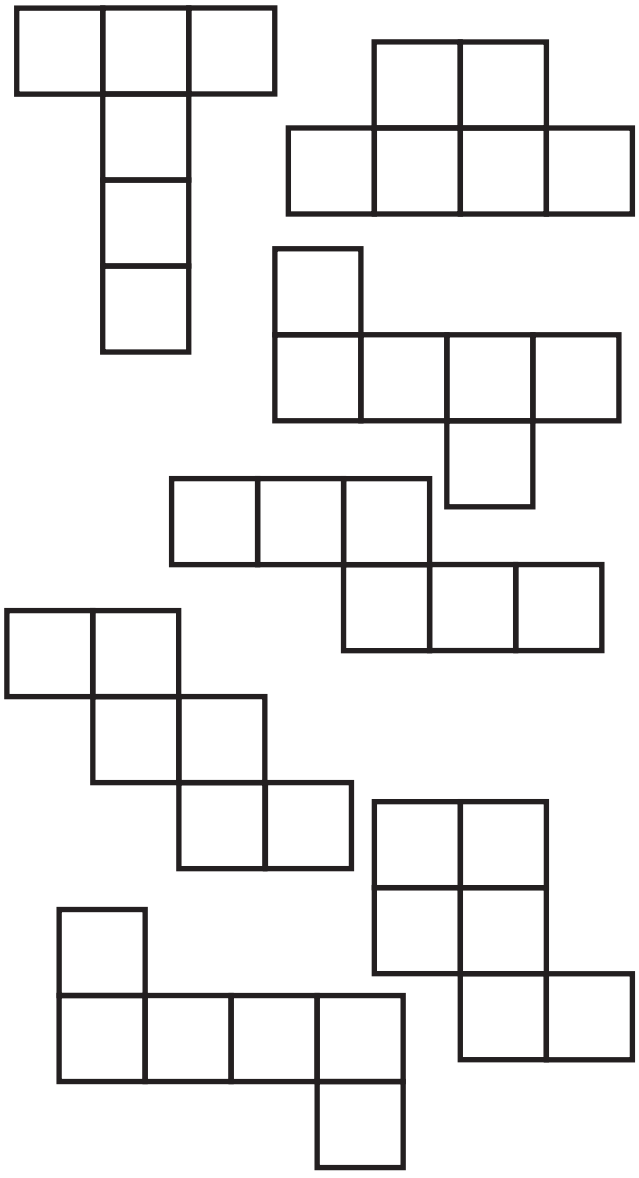
MARK

17

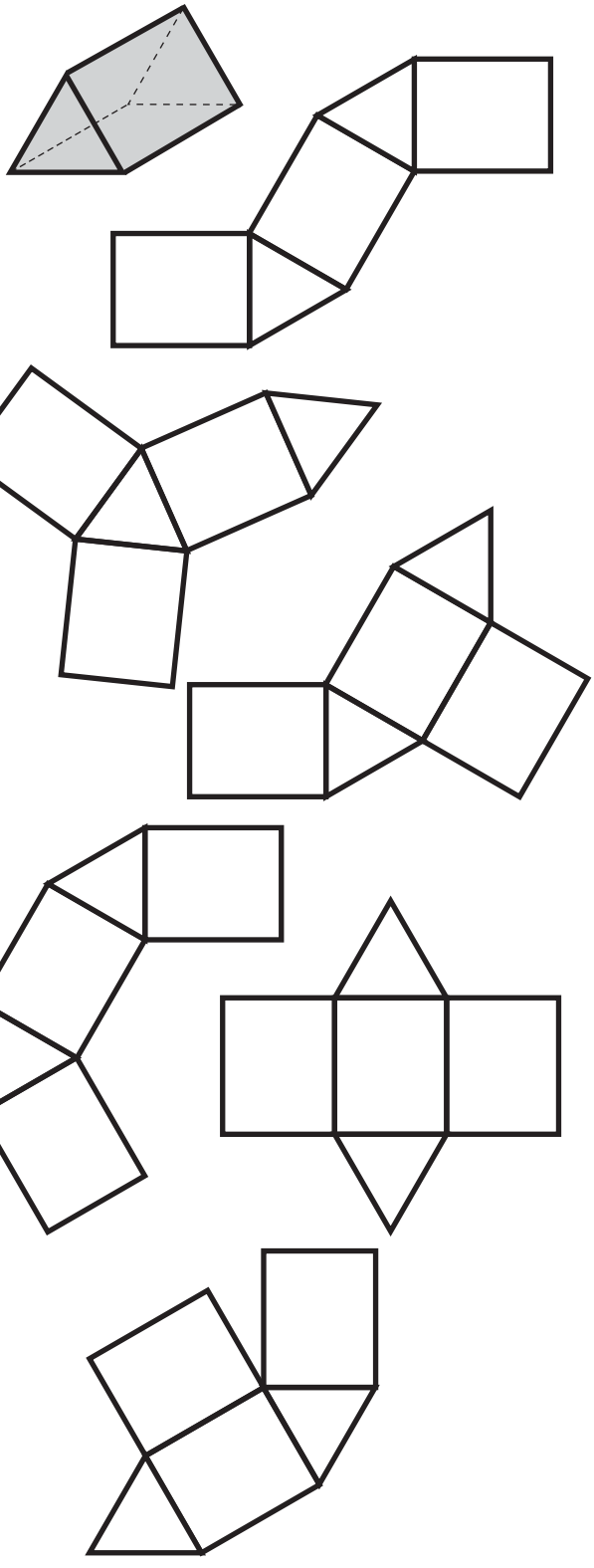
1. The following net could be folded to form a cube.



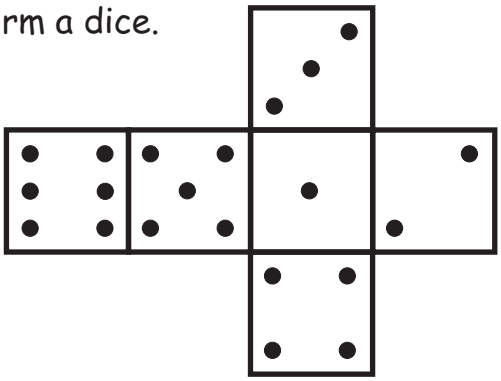
Colour in the nets below that could also be folded to form a cube.



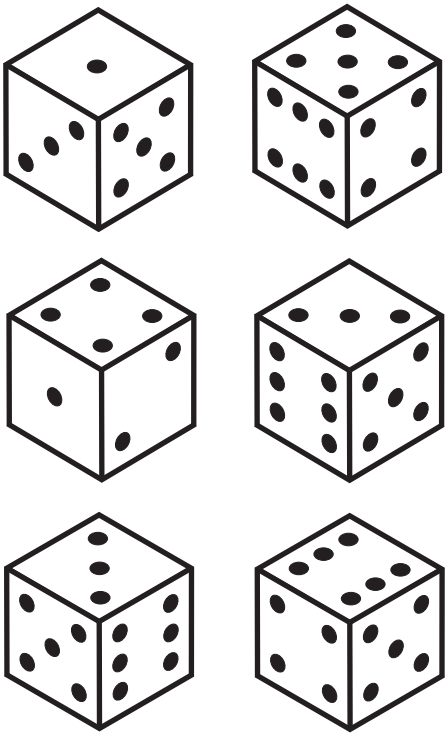
2. Colour in the nets below that could be folded to form this object.



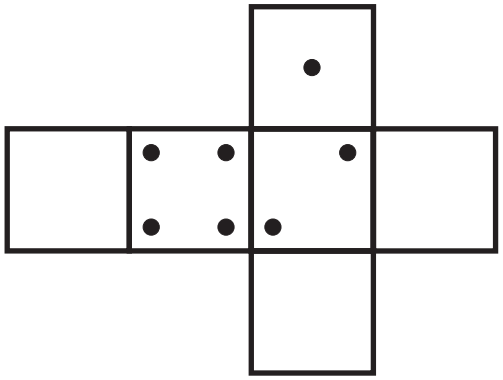
3. The net below could be folded to form a dice.



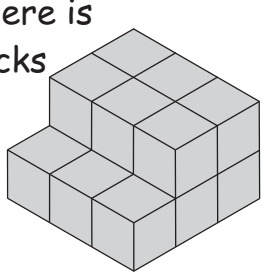
Colour in the dice below that could be formed from this net.



4. Fill in the dots on the blank faces of the net below so that when it is folded to make a dice the opposite faces add to 7.



5. The object shown here is made with small blocks and is painted all over with red paint. The small blocks are all removed.



(a) How many small blocks would there be?

(b) How many of the small blocks would have:

(i) four faces painted red?

(ii) three faces painted red?

(iii) two faces painted red?

(iv) one face painted red?

(v) no faces painted red?

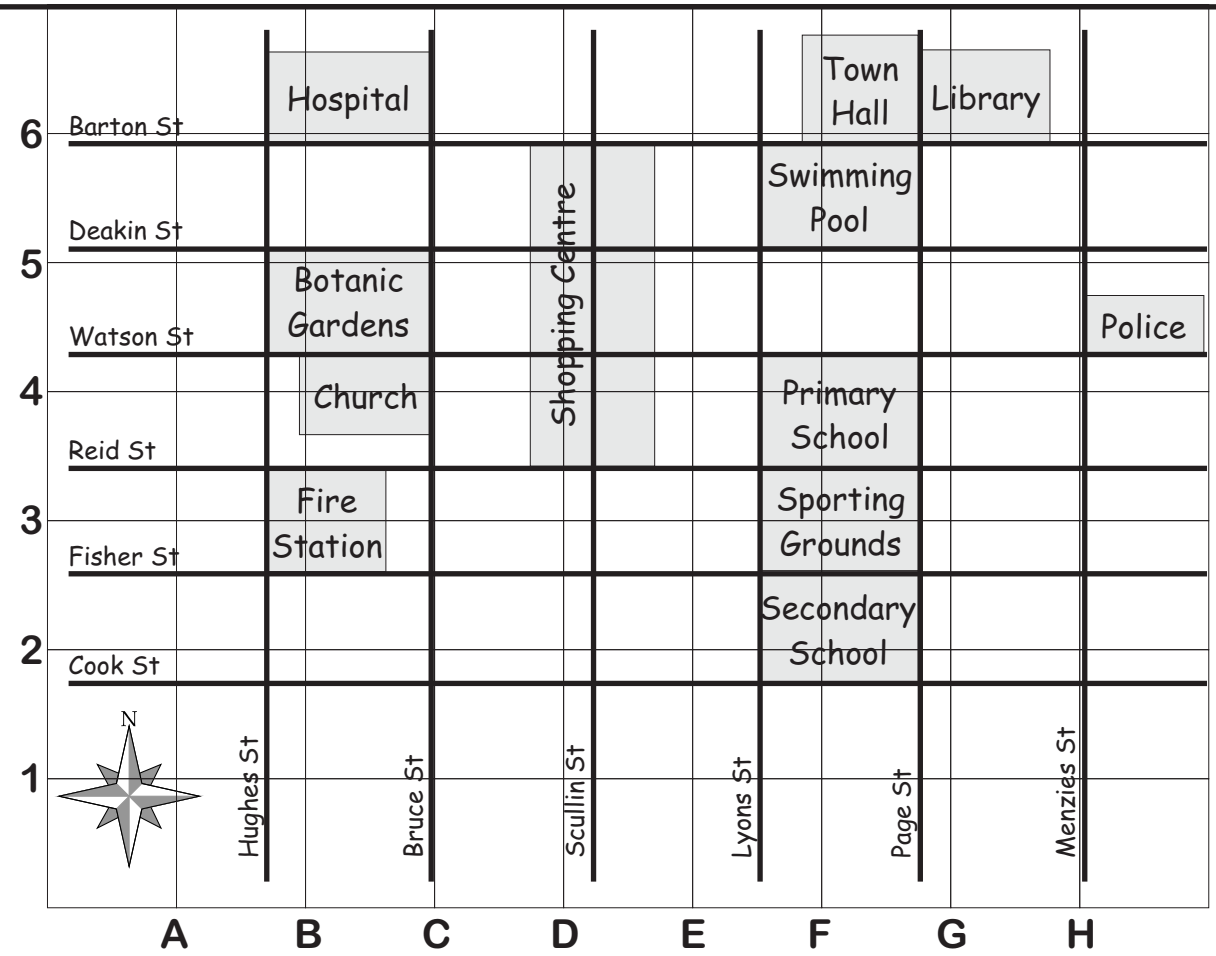
6. 15 words from worksheets 16 & 17 can be found in this word puzzle. Find the words and list them under the puzzle.

M	O	P	R	I	S	M	X	L	E	F
S	Q	U	A	P	Y	R	A	M	I	D
C	U	R	H	O	C	K	E	Y	N	N
U	A	E	E	D	G	E	C	S	U	N
B	R	L	A	D	B	E	N	A	O	M
E	N	O	C	Z	N	C	N	P	L	O
L	N	M	U	O	T	I	L	L	A	B
S	T	O	B	O	L	D	L	T	F	J
T	B	L	O	C	K	S	J	Y	A	E
E	I	D	I	K	N	O	W	V	C	C
N	O	R	D	E	H	A	R	T	E	T

MAPS 1

MARK

18



1. Which features would be found at the following grid references on this map?
   B3 _____ G6 _____

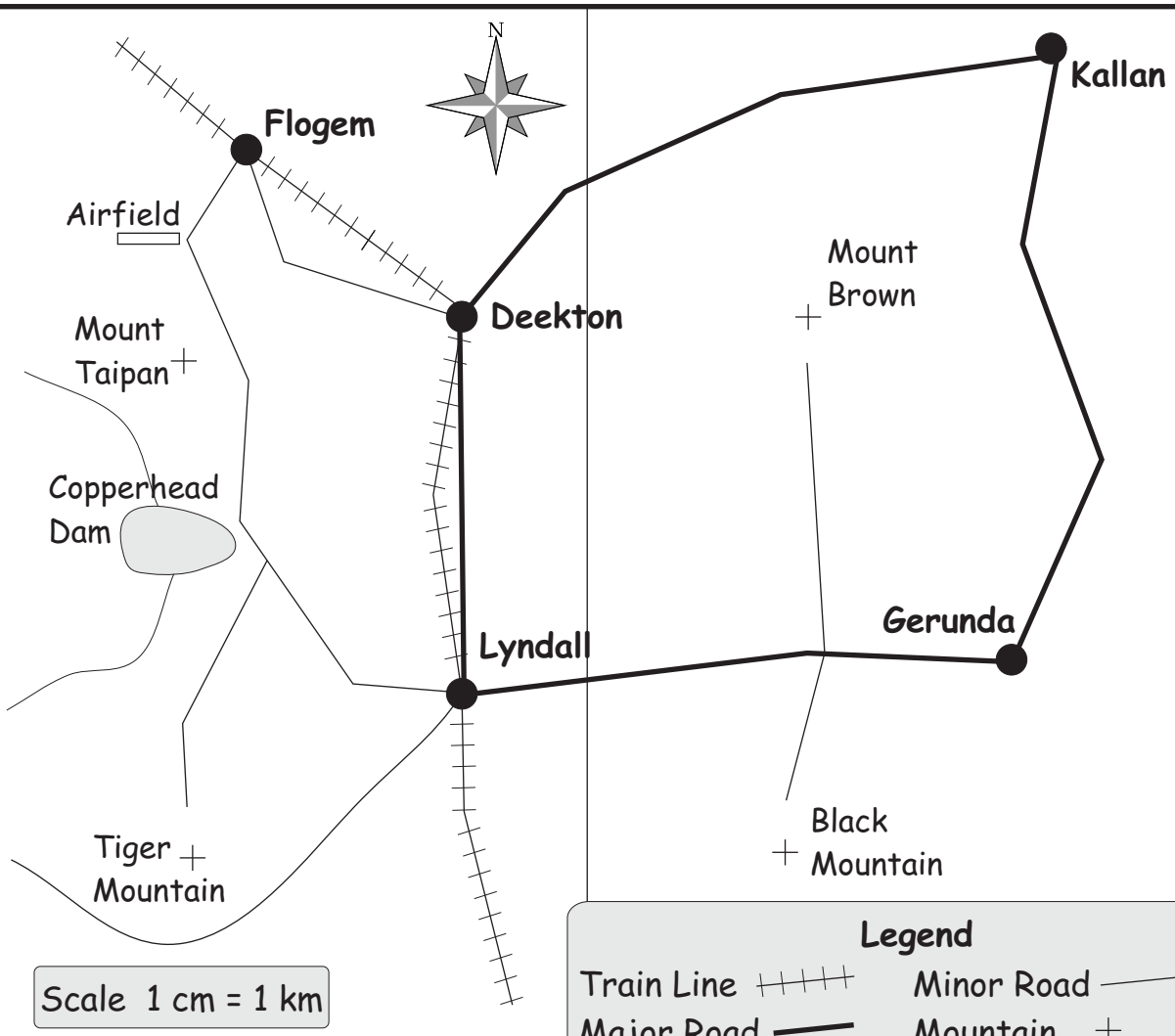
2. What are the grid references of the following features?
   Hospital ☐ Primary School ☐ Botanic Gardens ☐

3. Which street do students from the primary school need to cross over to get to the sporting grounds? _____

4. In which street is the shopping centre? _____

5. If a student walked out of the primary school into Lyons St, turned right and then crossed over two streets, where would they be? _____

6. If a student walked out of the primary school into Watson St and walked east crossing over two streets, where would they be? _____



7. Through which towns does the train pass? _____

8. Which mountain is north from Copperhead Dam? _____

9. Which mountain is south-west from Lyndall? _____

10. The quickest way to drive from Deekton to the airfield would be through which town? _____

11. A person drives east from Lyndall and turns left at the first major intersection. Which mountain will they drive to? _____

12. Use the scale on the map to find the distance from Lyndall to Deekton. _____

13. A person walks from Tiger Mountain to Black Mountain. They walk at an average speed of 4 km/hour. How long will it take them? _____

MAPS 2

MARK

19

1. Cross out the incorrect words in the following sentences.

(a) The sun rises in the **east/west** and sets in the **east/west**.

(b) If I was facing north the sun would rise to my **left/right**.

(c) If the sun is setting behind me, south would be to my **left/right**.

2. Hamish and Andre were camping. One day they went on a hike. They walked 5 km west from their campsite and stopped for a snack. They then walked 3 km south, then 3 km east, 1 km north and then 2 km east where they had lunch.

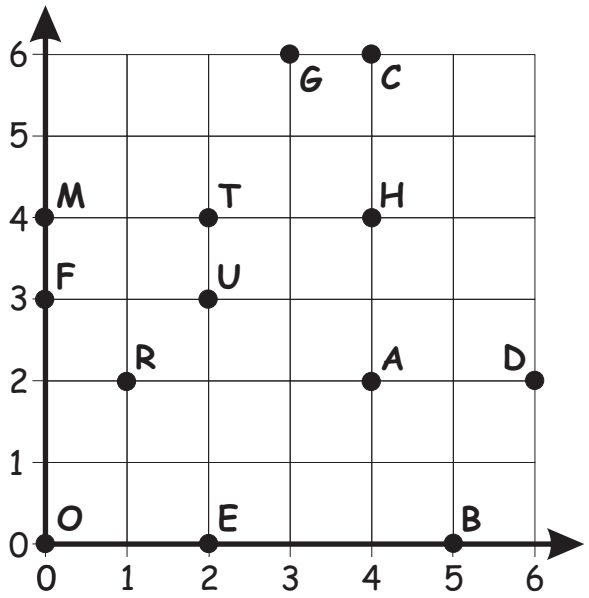
(a) How far were they from their campsite when they had lunch?

km

(b) In what direction do they need to hike after lunch to get back to their camp?

(c) After returning to their campsite what was the total distance they had walked?

km



3. From the graph above, find the letters found at the following coordinates.

(a) (2,3) _____ (b) (6,2) _____

(c) (4,6) _____ (d) (5,0) _____

(e) (1,2) _____ (f) (0,4) _____

4. From the graph above find the coordinates of the following points.

(a) A (,) (b) E (,)

(c) F (,) (d) G (,)

(e) T (,) (f) H (,)

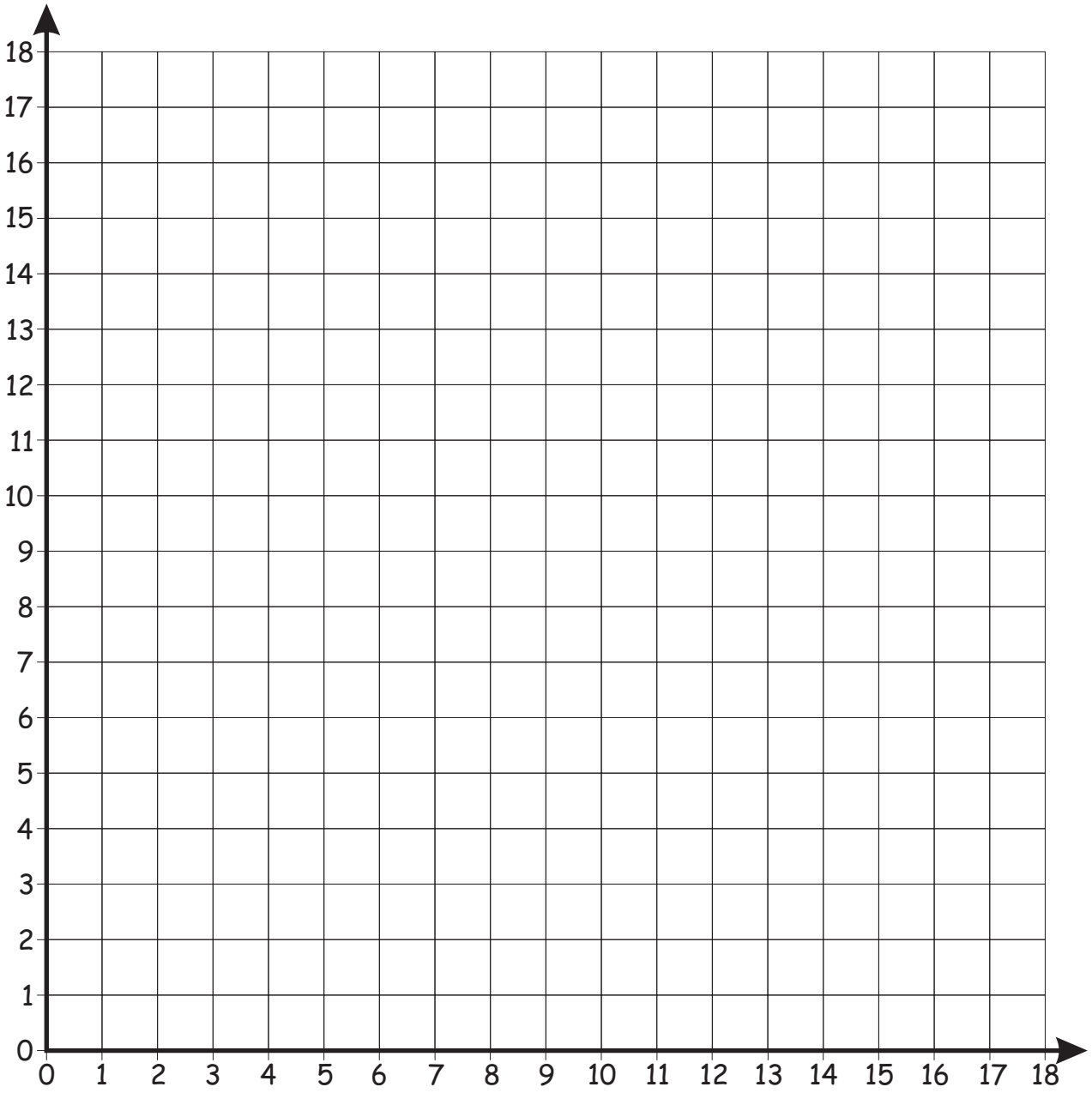
5. From the graph above find the letters found at the following coordinates to spell the answers to the riddles below.

(a) What is the name of someone who likes digging holes?

(6,2) (0,0) (2,3) (3,6) _____.

(b) What is the name of someone who makes rugs?

(0,4) (4,2) (2,4) _____.



6. Plot the points below and connect them with straight lines in the order that the points are listed.

(18,12) (16,15) (15,16) (13,17) (10,18) (9,18) (12,12) (15,13) (18,12) (10,7) (12,12) (9,13) (6,12) (9,18) (8,18) (5,17) (3,16) (2,15) (0,12) (3,13) (6,12) (8,7) ($8\frac{1}{2}$,7) ($8\frac{1}{2}$,8) (8,$8\frac{1}{2}$) (8,$9\frac{1}{2}$) ($8\frac{1}{2}$,10) ($9\frac{1}{2}$,10) (10,$9\frac{1}{2}$) (10,$8\frac{1}{2}$) ($9\frac{1}{2}$,8) ($9\frac{1}{2}$,7) (13,7) (10,6) (10,4) (11,3) (12,1) (13,0) (12,0) (11,1) (10,3) (9,$3\frac{1}{2}$) (8,3) (7,1) (6,0) (5,0) (6,1) (7,3) (8,4) (8,6) (5,7) (8,7) (0,12)

TIME

MARK

20

1. Complete the following conversions.

(a) 1 minute = _____ seconds

(b) 1 hour = _____ minutes

(c) 1 day = _____ hours

(d) $\frac{1}{2}$ minute = _____ seconds

(e) 20 minutes = _____ seconds

(f) 1 week = _____ days

(g) $2\frac{1}{2}$ days = _____ hours

(h) 1 leap year = _____ days

2. How many days are in the following months?

(a) April _____ (b) October _____

(c) January ____ (d) June _____

3. Angel was born on the 5th of February 1997.

(a) How old will Angel be on her birthday in 2025?

(b) How many days after Christmas is Angel's birthday?

(c) In what year did Angel turn five years old?

4. Oscar left for a camp on Tuesday the 19th of October. He returned 18 days later.

What was the day and date when Oscar returned?

Day

Date

5. The Johnson family are going to drive from Castlemaine to Corryong. The details of their drive and planned times are below.

Leave Castlemaine at 7:30 am
Castlemaine to Benalla - $2\frac{1}{2}$ hours
Stop at Benalla - 30 minutes
Benalla to Wodonga - $2\frac{1}{2}$ hours
Stop at Wodonga for lunch - 1 hour
Wodonga to Corryong - $1\frac{1}{2}$ hours

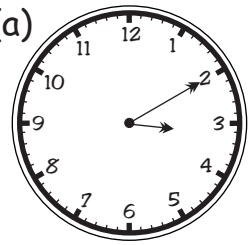
Complete the following table showing the times of arrival and departure from each town

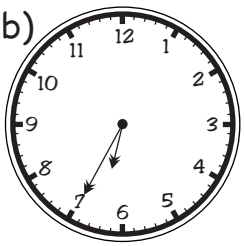
Event	Time
Depart Castlemaine	7:30 am
Arrive Benalla	
Depart Benalla	
Arrive Wodonga	
Depart Wodonga	
Arrive Corryong	

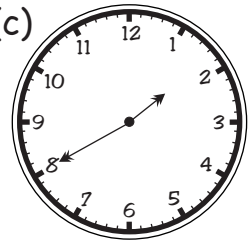
6. It took Noela 8 minutes to read 10 pages of a book. How many seconds did she take to read each page?

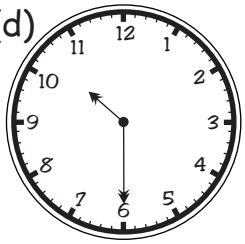
7. Write the times below two different ways.

Example: 2:05 = five past two

(a) 

(b) 

(c) 

(d) 

8. Complete the table below showing conversions between 12-hour time and 24-hour time.
One is completed as an example.

12-hour time	24-hour time
9:30 am	0930
7:50 am	
	0355
1:25 pm	
	1430
10:32 pm	
	1351

9. A bus timetable between Geelong and Lorne is shown below.

Geelong	1855
Torquay	1935
Jan Juc	1940
Bells Beach	1945
Anglesea	1955
Point Roadknight	2000
Aireys Inlet	2010
Lorne	2035

(a) How long does it take the bus to travel between the following towns?

(i) Geelong and Anglesea

(ii) Torquay and Anglesea

(iii) Geelong and Lorne

(b) Beryl wants to travel from Geelong to Lorne but she can't leave work till 2:00 pm.
How long will she need to wait before the next bus leaves?

10. Francis wants to cook a roast chicken and potatoes for dinner.
He wants to plan the dinner to be ready at 7:00 pm.
The roast chicken will take $2\frac{1}{4}$ hours to cook and the potatoes will take $1\frac{3}{4}$ hours.
At what time should he put the chicken and the potatoes in the oven?

Chicken

Potatoes

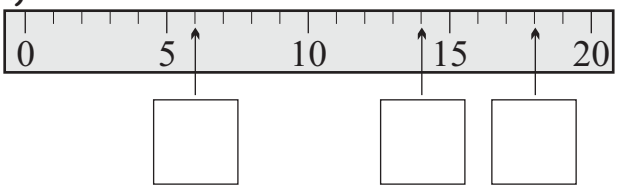
LENGTH 1

MARK

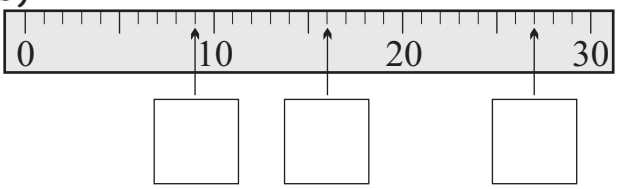
21

1. Read the measurements shown on these scales.

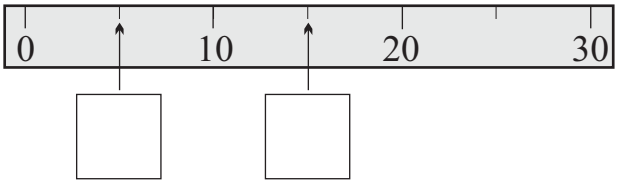
(a)



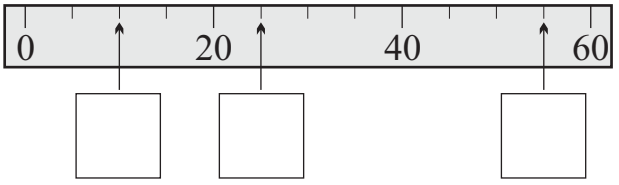
(b)



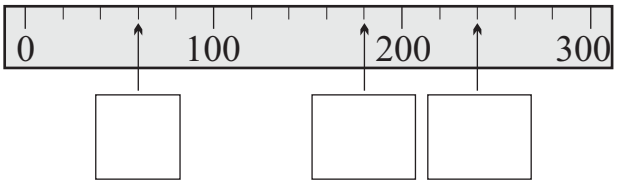
(c)



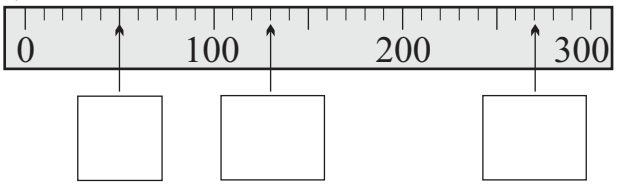
(d)



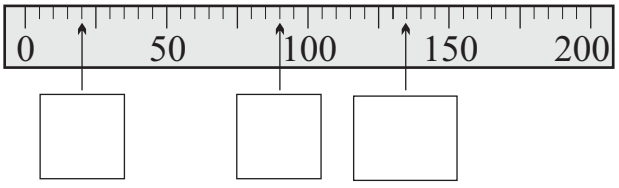
(e)



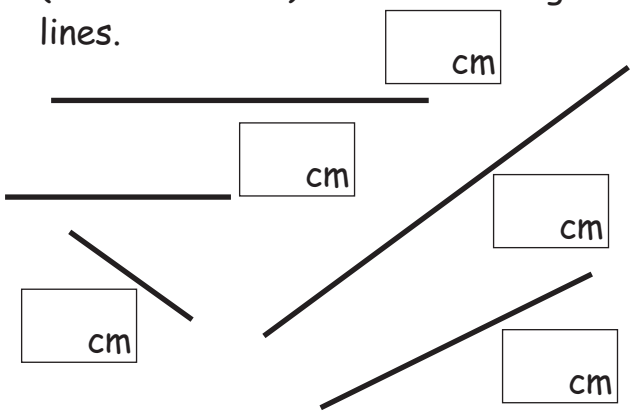
(f)



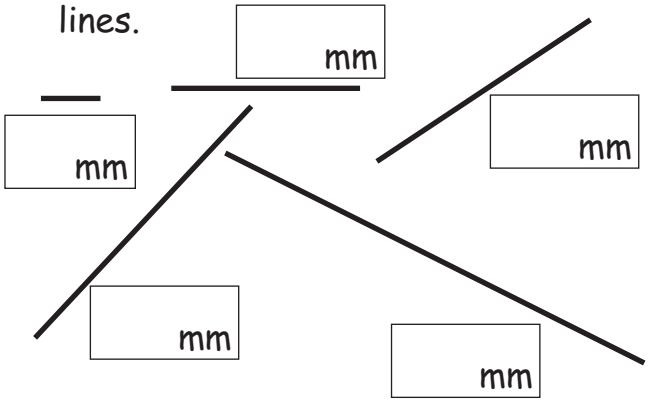
(g)



2. Use a ruler to measure the length (in **centimetres**) of the following lines.

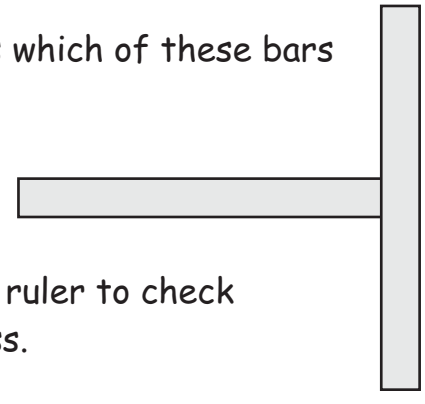


3. Use a ruler to measure the length (in **millimetres**) of the following lines.



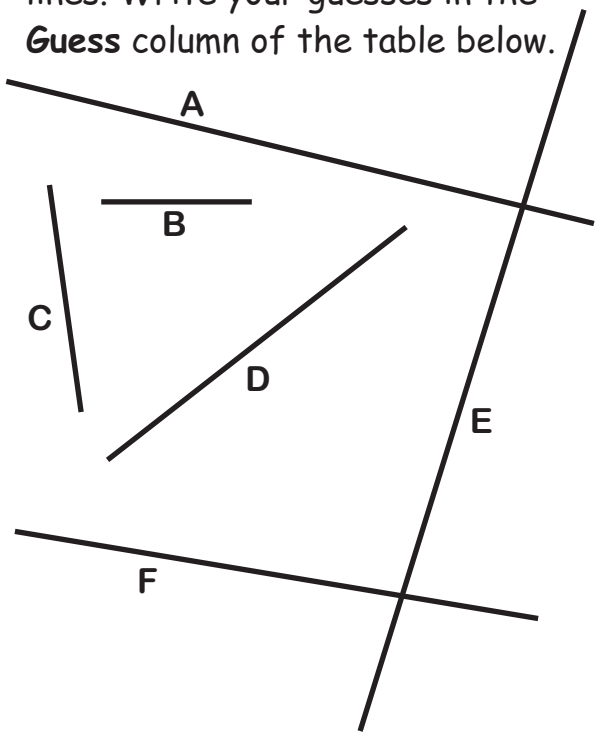
4. (a) Guess which of the following horizontal lines is longer.
(b) Use a ruler to check your guess.

5. (a) Guess which of these bars is longer.



(b) Use a ruler to check your guess.

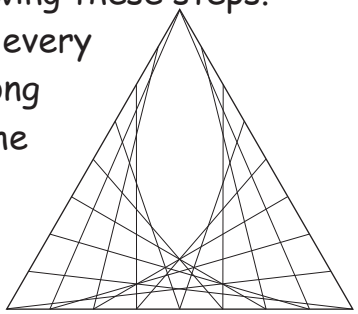
6. (a) **Guess** the length (in **centimetres**) of the following lines. Write your guesses in the **Guess** column of the table below.

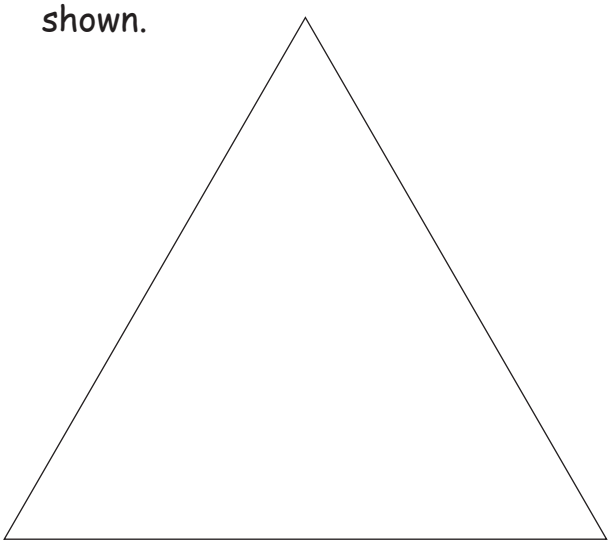


(b) Measure the length of each line and write these in the **Length** column of the table.
(c) Find the difference between your guess and the actual length of each line. Write these differences in the **Error** column.
(d) Add all the errors and write this total at the bottom of the **Error** column.
(e) If this total is less than 10 you have guessed well.

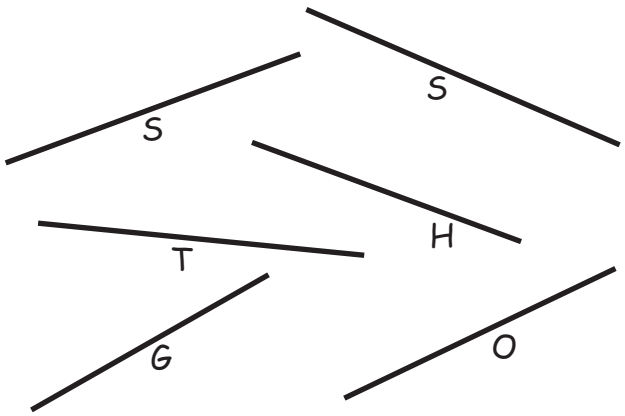
Line	Guess	Length	Error
A	cm	cm	cm
B	cm	cm	cm
C	cm	cm	cm
D	cm	cm	cm
E	cm	cm	cm
F	cm	cm	cm
		Total	cm

7. Draw this design on the triangle below by following these steps.
(a) Put a mark every **centimetre** along the sides of the triangle.
(b) Connect them as shown.





8. Measure the length (in **millimetres**) of each of the lines below.
Write the lengths on each line.
Arrange the lengths in order from the smallest to the largest in the table below.
The letters will spell what **phasmophobia** is the fear of.



Length						
Letter						

LENGTH 2

MARK

22

1. Choose the unit that would best be used to measure the objects below.

A - millimetres	**B** - centimetres
C - metres	**D** - kilometres

(a) The length of a $20 note. ☐
(b) The thickness of a $2 coin. ☐
(c) The distance from Melbourne to Perth. ☐
(d) The depth of the Murray River. ☐
(e) The length of your arm. ☐
(f) The height of a building. ☐
(g) The thickness of this book. ☐

2. Complete the following sentences by writing in the spaces the most appropriate unit of length.

millimetres centimetres
metres kilometres

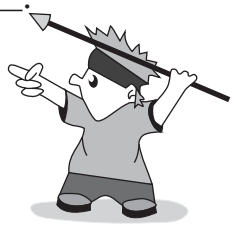
(a) Peter had a pet snake that was two _____ long.

(b) Daniel found that his hair grew 15 _____ every month.
(c) Giovanni could run at a speed of 200 _____ per minute.
(d) Serena rode her bicycle four _____ to school.
(e) Opal measured around her waist to be 60 _____.

3. Choose the correct length from the list below to fill in the gaps in the following sentences.

8 m 20 m 150 cm
100 m 1000 km 42 km
272 cm 2230 m 120 mm

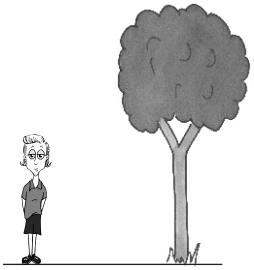
(a) The peak of Mt. Kosciusko, Australia's highest mountain, is _____ above sea level.
(b) The distance from Sydney to Brisbane is _____.
(c) The world record distance for throwing a javelin is _____.



(d) The distance across a CD is _____.
(e) The height of your teacher is about _____.
(f) The length of a cricket pitch is _____.
(g) The human intestine is _____ long.
(h) The tallest person ever recorded grew to a height of _____.
(i) The distance run in a marathon is _____.

4. Carrie is 2 metres tall. She is standing next to a tree as shown below.
Which of the following lengths is the best estimate of the height of the tree?

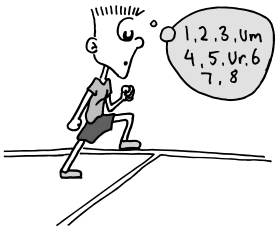
A 1 m **B** 4 m
C 10 m **D** 20 m



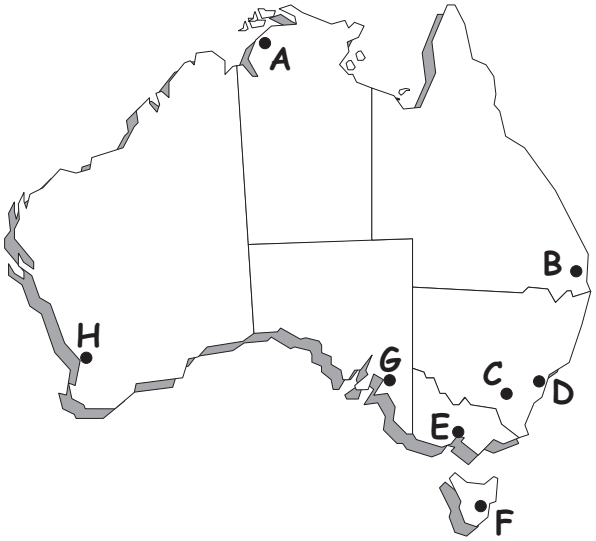
5. Zane wanted to find the distance to his friend's house. He put a counter on the wheel of his bike and rode to his friend's house. The counter showed that the wheel turned 600 times.
The length around the wheel is 3 metres.
How far is it from Zane's to his friend's house?

6. Nathan measured the length of each of his steps to be half a metre.
(a) He walked the length of a basketball court and counted 50 steps.
How long is the basketball court?

(b) How many steps would it take Nathan to walk 200 metres?



7. On the map of Australia below all the capital cities are shown (**A**-**H**).



(a) Name the capital cities.

A _____
B _____
C _____
D _____
E _____
F _____
G _____
H _____

The distance from Melbourne to Sydney is about 1000 kilometres.
(b) Circle the alternative which is the best estimate of the distance, in a straight line, between the following cities.

(i) Melbourne and Brisbane
1000 km 2000 km 4000 km

(ii) Sydney to Adelaide
1000 km 1500 km 2000 km

(iii) Perth to Brisbane
2000 km 5000 km 10 000 km

(iv) Brisbane to Darwin
3000 km 4000 km 5000 km

LENGTH 3

MARK

23

1. Complete the conversions below by filling in the gaps.

(a) 1 cm = _____ mm
(b) 1 m = _____ cm
(c) 1 m = _____ mm
(d) 1 km = _____ m
(e) 6 cm = _____ mm
(f) 3 km = _____ m
(g) 2 m = _____ cm
(h) 7 m = _____ mm
(i) 40 mm = _____ cm
(j) 800 cm = _____ m
(k) 6000 m = _____ km
(l) $\frac{1}{2}$ m = _____ cm
(m) 900 mm = _____ cm
(n) $\frac{1}{2}$ cm = _____ mm
(o) 140 mm = _____ cm
(p) $\frac{1}{2}$ km = _____ m

2. Wylla bought a piece of licorice that was 1 metre long. She broke it into 5 equal pieces.
How many centimetres was each piece?

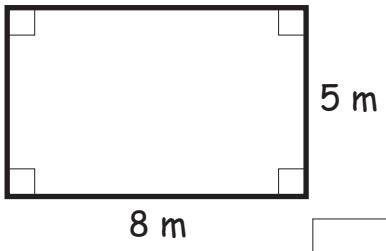
cm

3. Rhiannon swam 20 laps of a swimming pool that was 50 metres long.
How many kilometres did she swim?

km

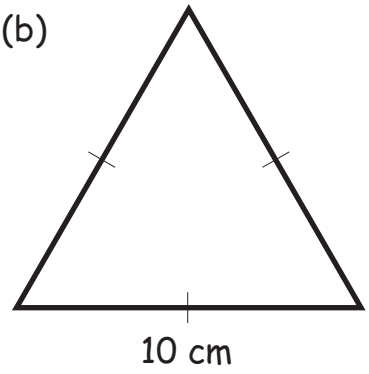
4. Find the perimeter of each of the following shapes.

(a)



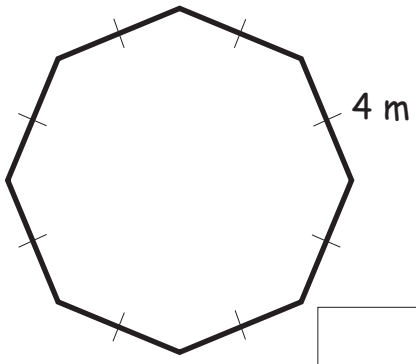
m

(b)



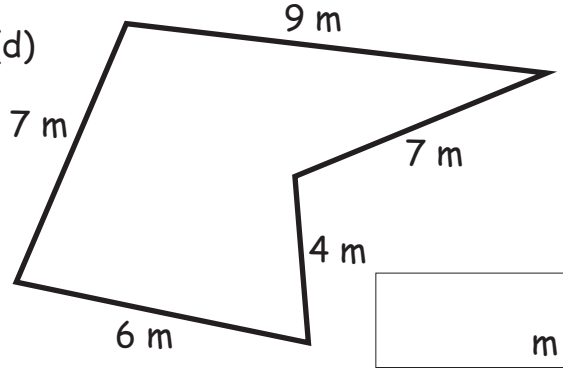
cm

(c)



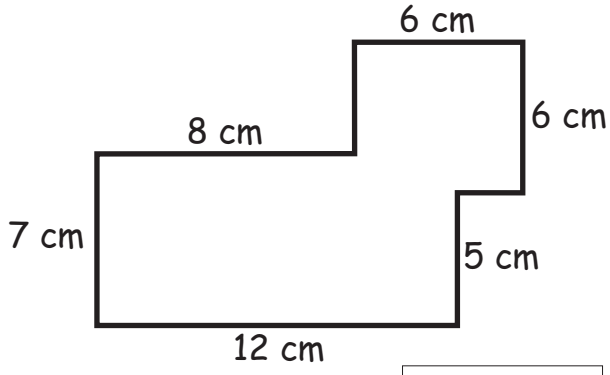
m

(d)



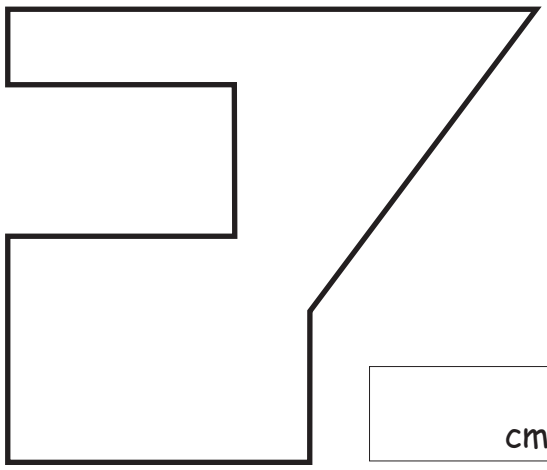
m

5. Find the perimeter of this shape.



cm

6. Use a ruler to measure the side lengths of this shape. Find the perimeter of the shape.



cm

7. Find the side length of a square that has a perimeter of 36 cm.

cm

8. The perimeter of a rectangle is 44 cm. The length of the rectangle is 2 cm longer than the width. Find the length and width of this rectangle.

Length cm

Width cm

9. Find the following words in the jumble word below.
Write the words in the spaces provided.

Millimetre _____

Centimetre _____

Kilometre _____

Metre _____

Perimeter _____

Measurement _____

Distance _____

Length _____

Height _____

Dimension _____

Unit _____

T	O	P	R	I	S	M	X	L	P	E
N	E	R	T	E	M	I	T	N	E	C
E	U	R	H	O	C	K	E	R	R	N
M	A	H	T	D	G	E	T	S	I	A
E	R	I	T	D	B	E	N	A	M	T
R	N	O	C	G	M	E	T	R	E	S
U	N	M	U	I	N	I	L	L	T	I
S	K	I	L	O	M	E	T	R	E	D
A	B	L	O	C	K	S	L	Y	R	E
E	I	D	I	T	H	G	I	E	H	C
M	D	I	M	E	N	S	I	O	N	T

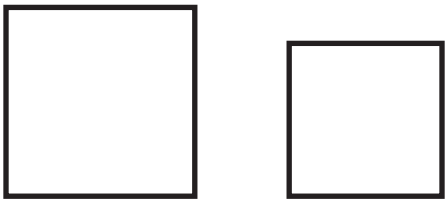
AREA 1

MARK

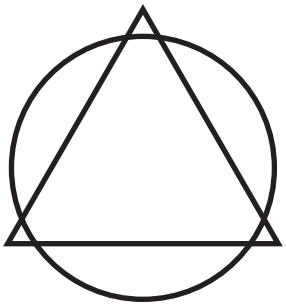
24

1. Out of the pairs of shapes below colour in the shape that has the **largest area**.

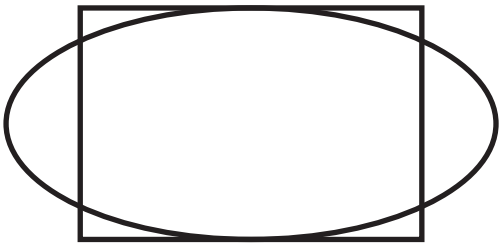
(a)



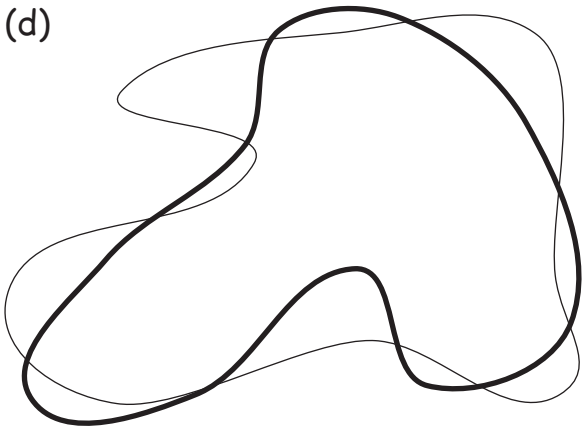
(b)



(c)

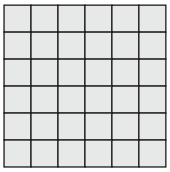


(d)

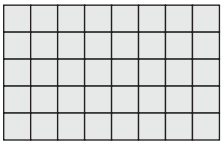


2. If the small squares in the following shapes are the same size, list the shapes in order from the one with the smallest area to the one with the largest area.

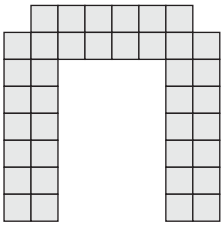
A



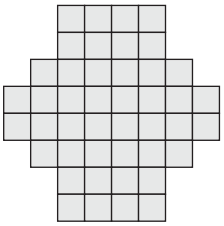
B



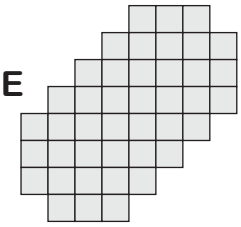
C



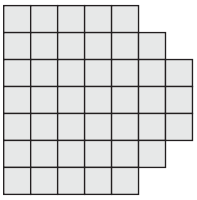
D



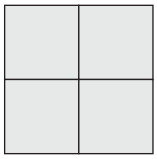
E

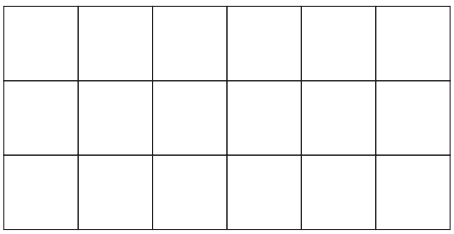


F



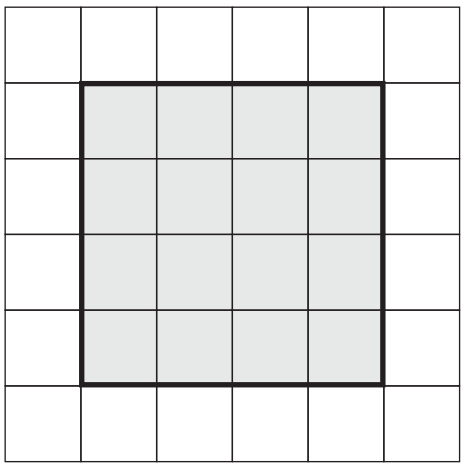
3. On the grid below draw and colour in **two different shapes** that have the same area as the one shown here.





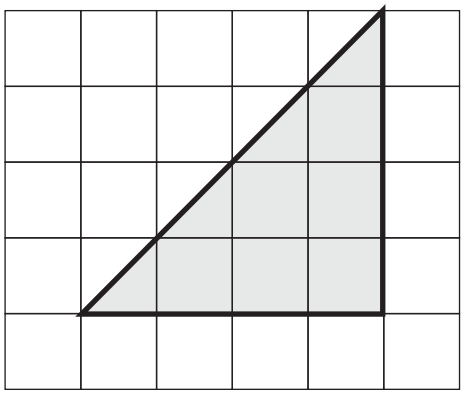
4. Each square in the following grids has an area of 1 cm^2.
Find the area of each shaded shape.

(a)



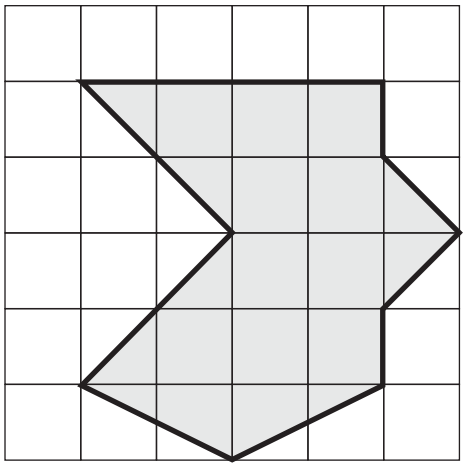
cm^2

(b)



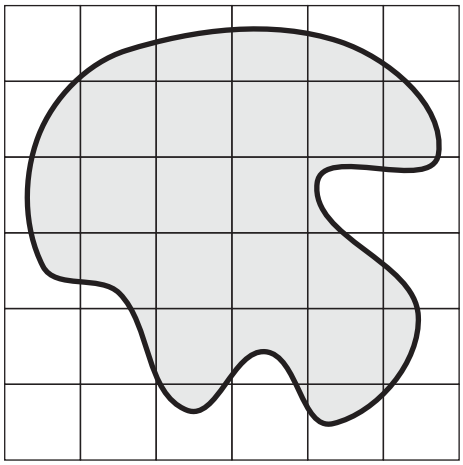
cm^2

(c)



cm^2

5. Each square in the following grid has an area of 1 cm^2.
Find the approximate area of the shaded shape.



cm^2

6. The approximate area of several countries is listed below.
Arrange the countries in order from the smallest to the largest.

Australia	7 682 292 km^2
Brazil	8 511 965 km^2
Canada	9 970 610 km^2
China	9 571 300 km^2
Germany	356 733 km^2
India	3 165 596 km^2

Country	Area (km^2)

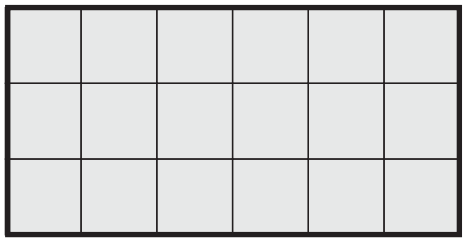
AREA 2

MARK

25

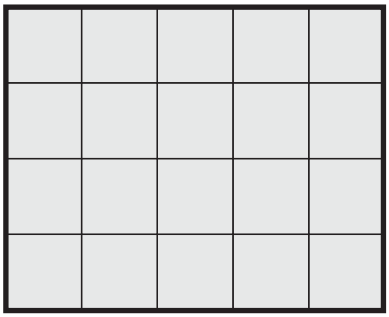
1. Each square in the following shapes has an area of 1 cm^2.
Find the area of each of the shapes.

(a)



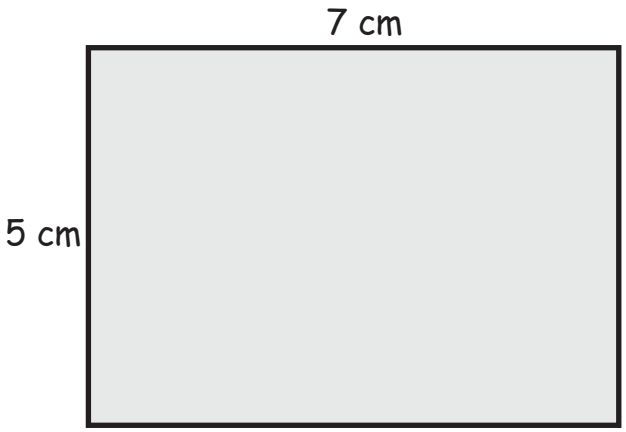
cm^2

(b)



cm^2

2. Find the area of the shape below.



cm^2

3. What is the area of a rectangle that is 10 metres long and 8 metres wide?

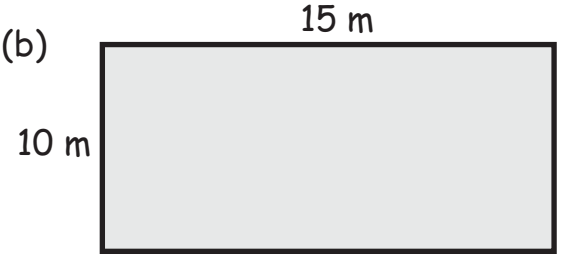
m^2

4. Find the area of the shapes below.

(a)

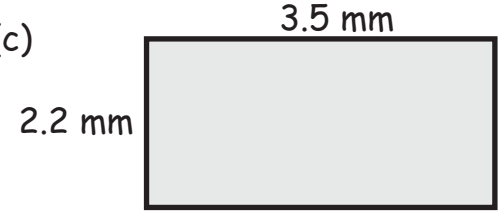
m^2

(b)



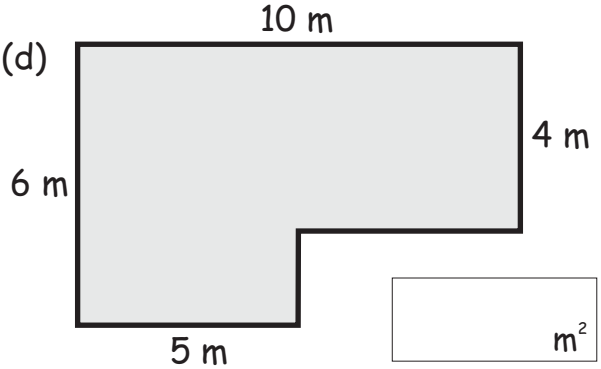
m^2

(c)



mm^2

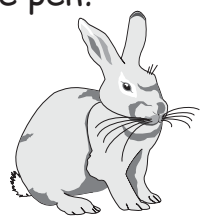
(d)



m^2

5. Penny wants to make a pen for her rabbits. She has 16 metres of wire mesh that she is going to use to make a rectangular pen.

(a) If the pen is 5 metres long and 3 metres wide, what is the area of the pen?



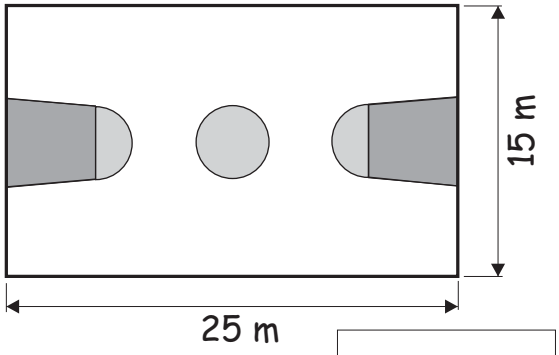
m^2

(b) Find the length and width of two other pens that she could make using the 16 metres of wire mesh. Find the area of each of these pens.

	LENGTH	WIDTH	AREA
PEN 1			
PEN 2			

6. Terry is going to tile his bathroom floor. The bathroom is 3 metres long and 2 metres wide.
Tiles cost $50 per square metre.
Find the cost to tile Terry's bathroom floor.

7. What is the area of a basketball court?



8. The cost for advertising space in a newspaper was $2 per square centimetre (cm^2).
Use a ruler to measure the advertisements below and calculate the cost to place them in the newspaper.

(a)

Sally's Dog Washing Service

Anyone wanting to wash Sally's dog please contact 55682459

(b)

Wonted

Help to do homewerk
Carnt pay mutch
Pleese dont tell
Mum or the
Teecher
Corl Bart
9%67*lll

(c) Think of your own advertisement. Draw it below and work out its cost.

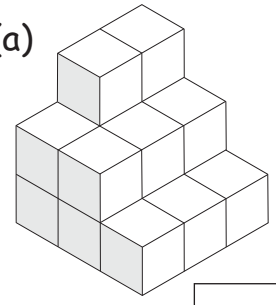
VOLUME

MARK

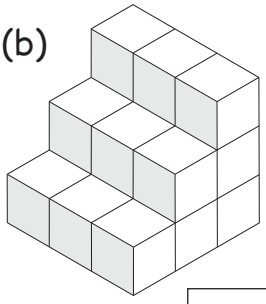
26

1. How many small cubes are in each of the following objects.

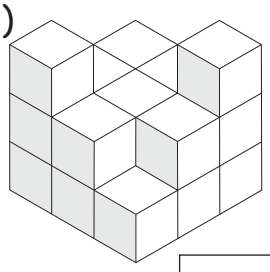
(a)



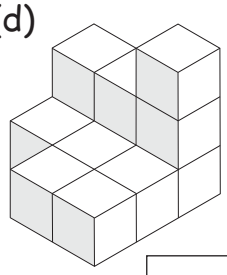
(b)



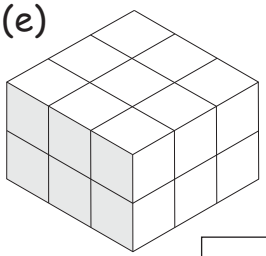
(c)



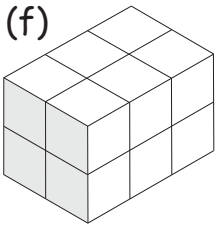
(d)



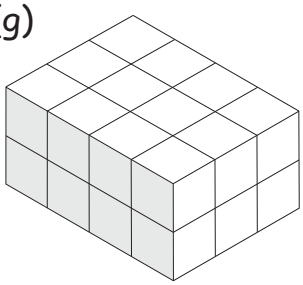
(e)



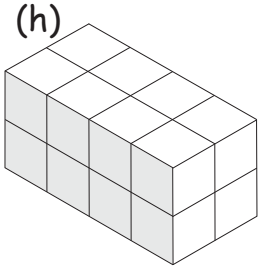
(f)



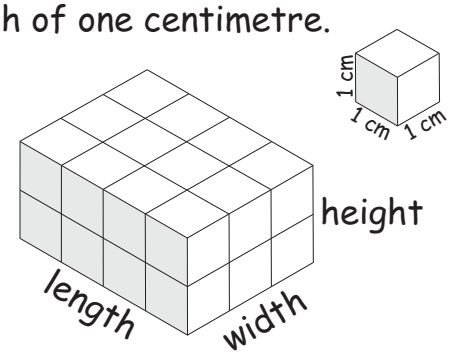
(g)



(h)



2. The block shown below is made using small cubes that have a side length of one centimetre.



(a) State the length, width and height (in centimetres) of the block.

length	width	height

(b) State the length, width and height of two different blocks that could be made using **all** these cubes.

length	width	height

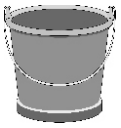
3. State the number of cubes with side length of one centimetre that would be needed to make blocks with the following sizes.

length	width	height	number of 1 cm cubes
2 cm	2 cm	5 cm	
4 cm	5 cm	10 cm	

4. A crate used to carry milk cartons holds 16 one litre cartons or 9 two litre cartons.
Circle which would be heavier.

16 one litre cartons	9 two litre cartons

5. Circle the alternative which is the best estimate of the following volumes.
(mL = millilitres L = litres)



(a) The capacity of a household bucket.
A 10 mL **B** 100 mL **C** 10 L **D** 100 L

(b) The capacity of a car's petrol tank.
A 500 mL **B** 5 L **C** 50 L **D** 500 L

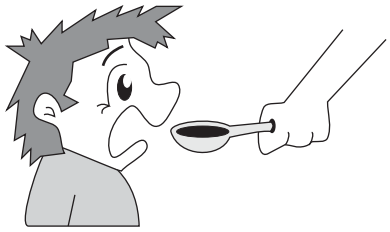
(c) A scoop of ice-cream.
A 1 mL **B** 10 mL **C** 100 mL **D** 1 L

(d) The capacity of a drinking glass.
A 1 mL **B** 5 mL **C** 10 mL **D** 200 mL

(e) The amount of blood in the body.
A 5 mL **B** 50 mL **C** 500 mL **D** 5L

(f) The volume of a basketball.
A 7 L **B** 22 L
C 54 L **D** 73 L

6. Quinton has to take 10 millilitres of medicine every morning and night. The bottle of medicine contains 200 millilitres.
How many days will Quinton be taking medicine if he has to finish the bottle?



7. (a) Circle the correct answer in the following sentence.
There are 10 100 1000 millilitres in one litre.
(b) Complete the following conversions by filling in the gaps.

(i) 2 litres = _____ millilitres

(ii) $\frac{1}{2}$ litre = _____ millilitres

8. It is recommended that people should drink at least one litre of water every day.

(a) If a glass contains 200 millilitres, how many glasses of water should you drink each day?

(b) Alice is having a party. She expects 10 people to be at the party and that each person will have four glasses of drink.
How many two litre bottles of drink will she need?

MASS

MARK

27

1. Complete the following sentences by writing in the correct unit of mass.

grams or **kilograms** or **tonnes**

(a) Charmaine's cat weighed three _____.

(b) The farmer produced 20 _____ of wheat.

(c) The adult human brain weighs 1.3 _____.

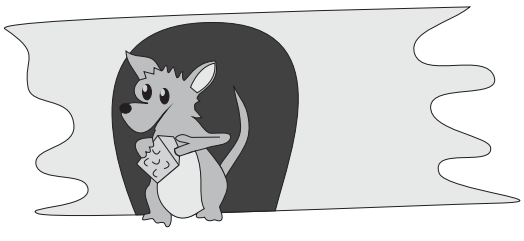
(d) Adam bought 100 _____ of his favourite chocolate.

(e) Georgia caught a trout that weighed 750 _____.

(f) Claire's baby weighed 3.2 _____ at birth.

(g) Jeremy went hiking. After packing all his camping gear his back-pack weighed 20 _____.

(h) Norman's mouse was quite large. It weighed 200 _____.



2. From the following list match the correct mass with the objects below.

635 kg 150 g 380 kg 12 tonnes 250 g 1200 kg 85 kg 22 kg 3 kg 20 g 190 tonnes

Object	Mass
Largest pumpkin	
This book	
A cricket ball	
A pencil	
Largest whale	
A car	
Largest elephant	
Heaviest human	
A brick	
Largest kangaroo	
Largest domestic cat	

3. A packet of Crunchy Chunks breakfast cereal weighed 750 grams.
Billy had a bowl containing 50 grams of Crunchy Chunks every day.
How many days would the packet last?

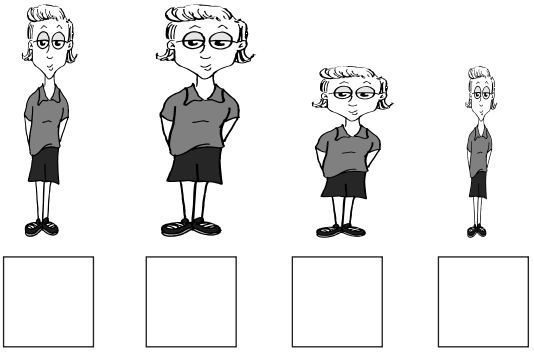
4. Lleyton had to give his cats some worming tablets. The instructions were two tablets for every kilogram that the cat weighed.
State how many tablets each of Lleyton's cats would need.

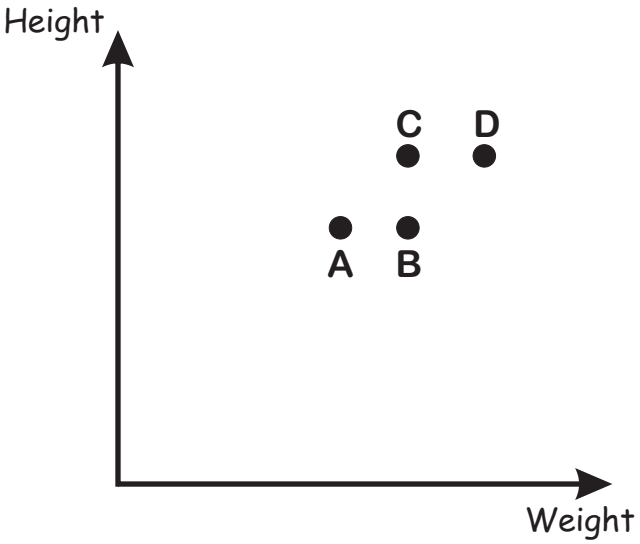
Boofer (6 kg)	tablets
Spike (3 kg)	tablets

5. Beth was nursing three sick wombats - Frodo, Pippen and Bilbo.
Frodo weighed 2 kg more than Pippen.
Bilbo was 3 kg lighter than Pippen.
Pippen weighed 8 kg.
Find the mass of Frodo and Bilbo.

Frodo	Kg
Bilbo	Kg

6. The height and weight of the four people below is recorded and plotted on the graph shown.
Study the four points on the graph and decide which point belongs to each of the four people. Write the letter for each point under the person to whom it belongs.





7. Irene was weighing fruit at a green-grocer. She found that three apples weighed the same as one pineapple. She also found that two pineapples and three apples had a total mass of 1800 grams.
Find the mass of a pineapple and an apple.

Pineapple	Grams
Apple	Grams

CHANCE

MARK

28

1. Which of the following events is **more likely** to happen.

(a) **A** Throwing heads on a coin
B Rolling a 6 on a die


(b) **A** Choosing a white ball from this box
B Choosing a black ball from this box

(c) **A** Choosing an odd number from the list below
B Choosing an even number from the list below

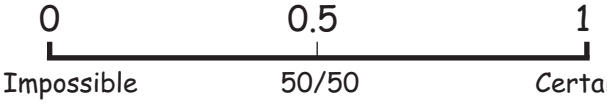
1 2 3 4 5 6 7

2. List the following odds (**A**-**E**) in order from **least likely** to **most likely**.

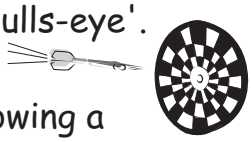
A 50-50 chance
B 1 in 4 chance
C Odds on
D Buckley's chance
E A certainty

Least likely — Most likely

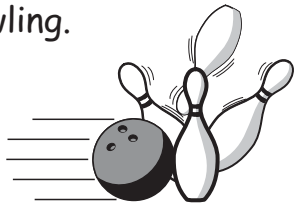
3. Rate the chance of the following events occurring using the scale of 0 - 1 as shown below.



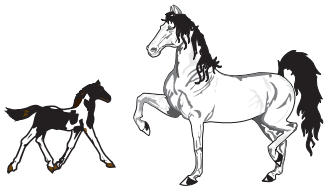
(a) Tossing tails on a coin.
(b) You throwing a dart and scoring a 'bulls-eye'.



(c) You throwing a dart and hitting anywhere on the dartboard.
(d) You waking up before 7 o'clock tomorrow morning.
(e) You scoring a strike at ten pin bowling.



(f) It will rain tomorrow.
(g) If a horse had a foal that it would be a filly.



(h) Essendon winning the AFL Grand Final next year.
(i) It will be sunny on Christmas Day this year.

4. A box of chocolates contained the following flavours:

4 caramel **3 strawberry**
2 hazelnut **3 peppermint**

(a) If you closed your eyes and picked a chocolate, which flavour would you be most likely to choose?

(b) Which flavour would you be least likely to choose?

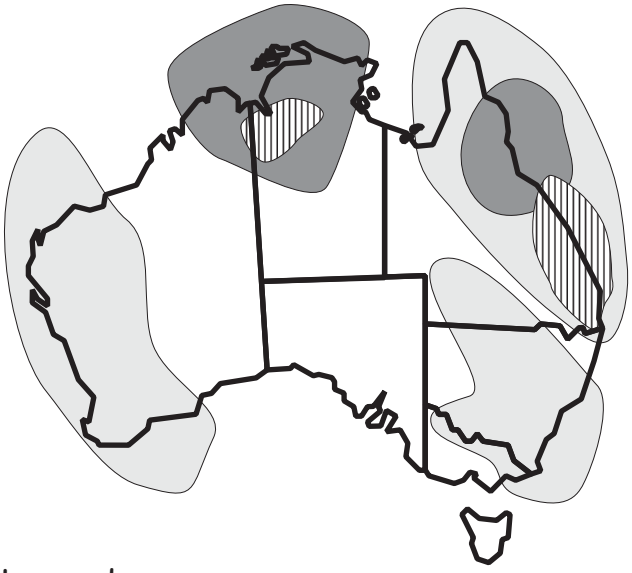
(c) Four of your friends each picked a chocolate before you and chose the following flavours:
strawberry, caramel, hazelnut, caramel
You now choose a chocolate. Which flavour are you most likely to choose?

5. Vanita and Destiny play basketball. In one season Vanita had 60 shots at goal and scored 30 goals. Destiny had 80 shots at goal and scored 35 goals.

(a) If they each had one shot at goal who would be more likely to score a goal?

(b) If Vanita had 100 shots at goal, how many goals would you expect her to score?

6. The map below shows the percentage chance of rain falling on regions in Australia for a given day.



Legend:

- 0% Chance
- 20% Chance
- 40% Chance
- 60% Chance

Use this map to answer the following questions.

(a) Which **capital city** has got the **highest** chance of rain falling?

(b) What is the percentage chance of rain falling in:

(i) Sydney?
(ii) Darwin?
(iii) Melbourne?
(iv) Canberra?

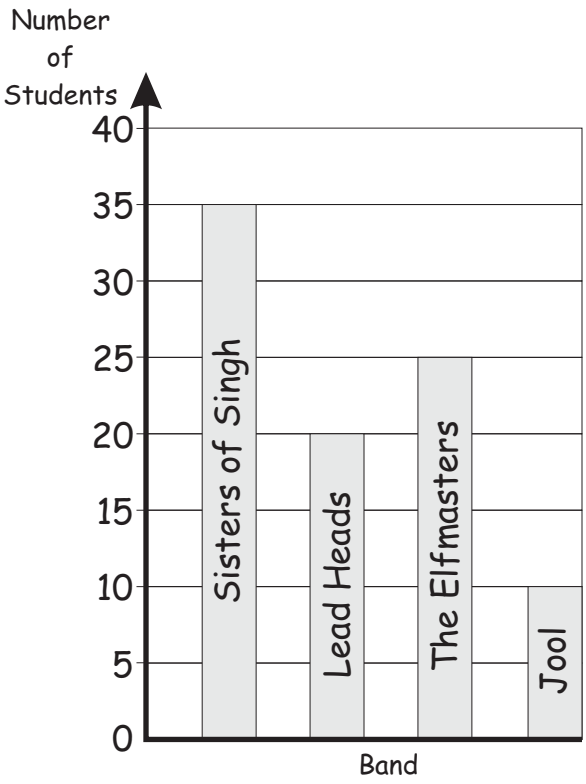
(c) Name the two states that have 0% chance of it raining.

DATA 1

MARK

29

1. All the students in Grade 6 at a school were asked who was their favourite band. The results are shown on this graph.

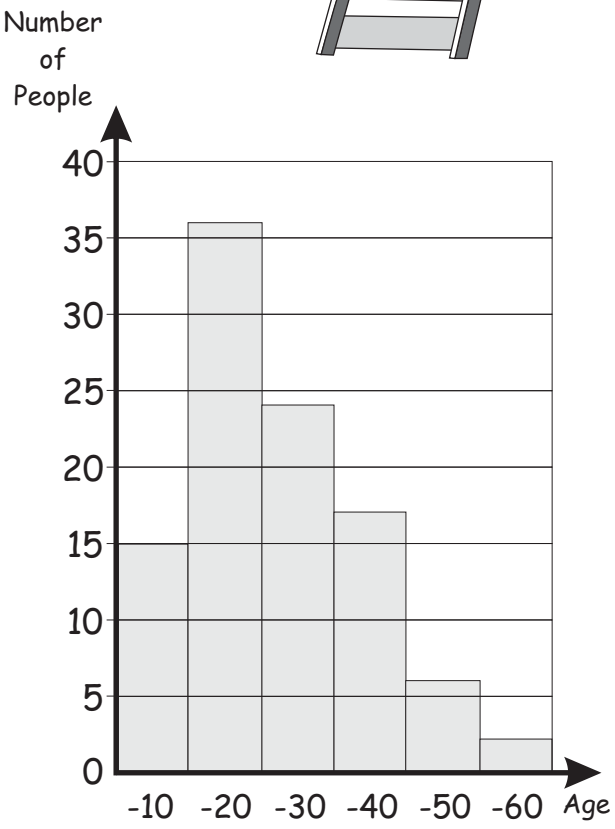


(a) How many students chose each of the bands?

Band	Number
Sisters of Singh	
Lead Heads	
The Elfmasters	
Jool	

(b) How many students are in Grade 6 at this school?

2. The ages of 100 people who rode on a new attraction at Luna Park are shown on the graph below.

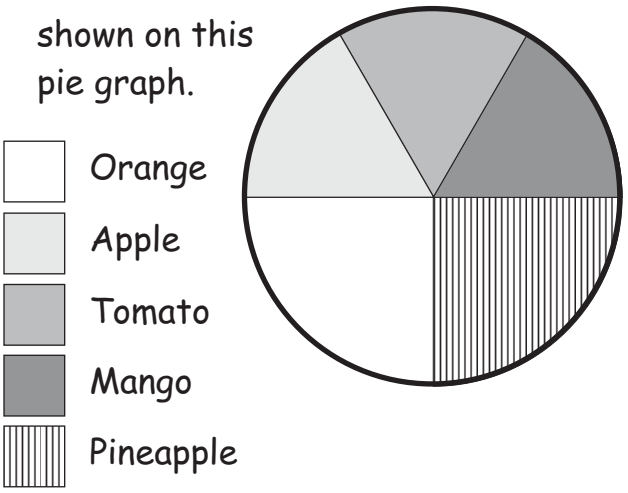


(a) How many people older than 40 went on the ride?

(b) How many people up to the age of 10 went on the ride?

(c) How many people between the ages of 10 and 40 went on the ride?

3. 120 people were asked to state their favourite fruit juice.
The results are shown on this pie graph.



30 people chose orange as their favourite juice.
Complete the table below showing the number of people who chose each juice.

Juice	Number
Orange	30
Apple	
Tomato	
Mango	
Pineapple	
Total	120

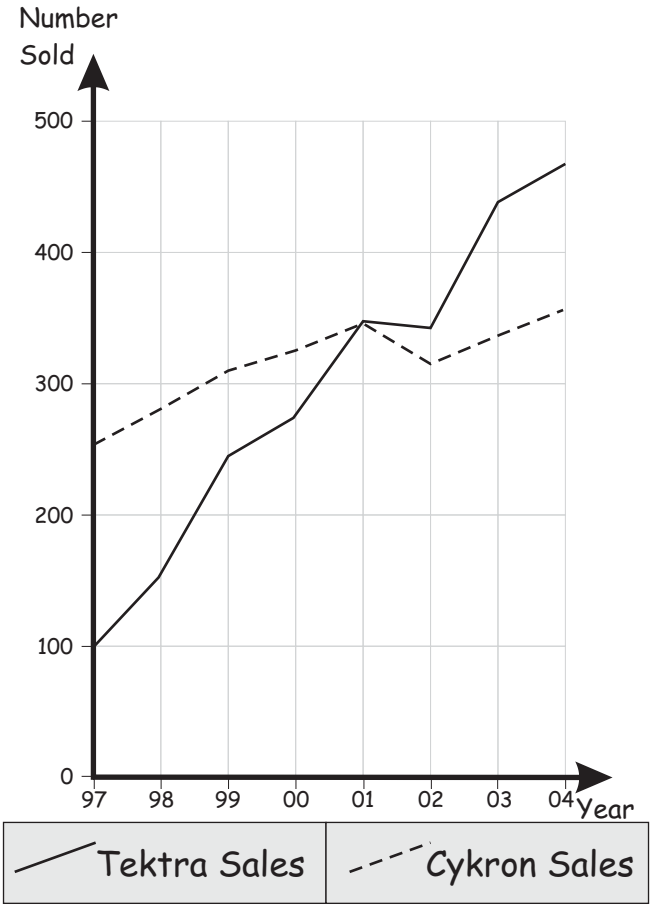
4. Jake had five piglets.
Their weights were:
15 kg, 22 kg, 25 kg, 17 kg, 21 kg
(a) Arrange the weights of the piglets in order from lightest to heaviest.

_____ _____ _____ _____ _____.

(b) Find the middle weight? ☐

(c) Find the mean weight? ☐

5. The Tooweela company makes bicycles. It has two types of bicycles - **Tektra** and **Cykron**.
The graph below shows the sales of these bicycles between the years 1997 and 2004.



(a) Complete the table below showing the approximate number of each bicycle sold in the years 1997, 2000 and 2004.

	1997	2000	2004
Tektra Sales			
Cykron Sales			

(b) In which year were the sales of the two bicycles the same? ☐

(c) In which year were the sales of the bicycles less than the year before? ☐

DATA 2

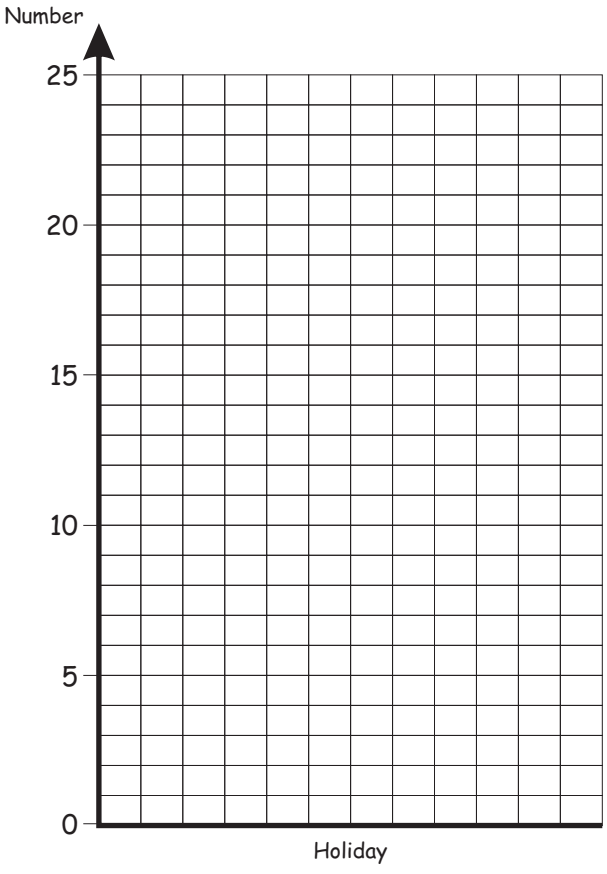
MARK

30

1. 80 people were asked where they would like to go on their holidays. The results are given in this table.

Holiday Location	Number
Beach	24
River	12
Bush Walking	9
Overseas	10
Snow	18
Other	7

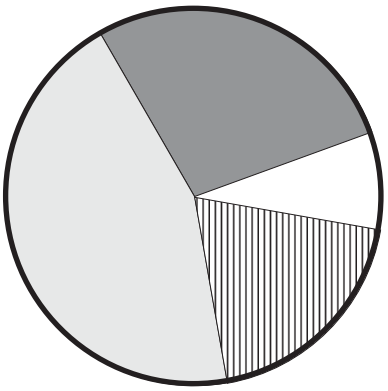
Display this information on the column graph below.

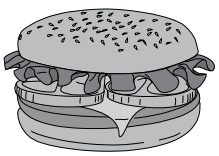


2. 100 people were asked to state their favourite take-away foods. The table below shows the results.

Take-away Food	Number
Hamburger	20
Pizza	28
Chinese	7
Fish and Chips	45

The pie graph below displays this information. Complete the graph by stating which take-away food is represented by each section.





3. A number of people were asked to choose what they thought the council should build in their town.
A tally sheet of the results is shown below.
Complete the tally sheet by filling in the number of people who chose each project and the total number of people who were asked.

Project	Tally	Number
Swimming Pool	𝍸 𝍸 𝍸 IIII	
Skate Park	𝍸 𝍸 I	
Sports Stadium	𝍸 𝍸 𝍸 II	
Art Gallery	𝍸 II	
Tennis Courts	IIII	
Gardens	𝍸 𝍸 III	
Library	𝍸 IIII	
	Total	

4. Complete the tally sheet below for the following heights (in cm) of 50 students.

131 149 128 143 151 145 137 129
142 139 146 140 132 151 148 143
132 137 140 150 142 126 134 139
142 159 153 130 147 152 143 134
150 123 158 142 152 142 141 135
156 141 153 136 147 143 152 133
130 144

Height (cm)	Tally	Number
120 -		
130 -		
140 -		
150 -		
	Total	

5. Think of a survey question that requires a **YES** or **NO** answer.
Write the question below.

_____

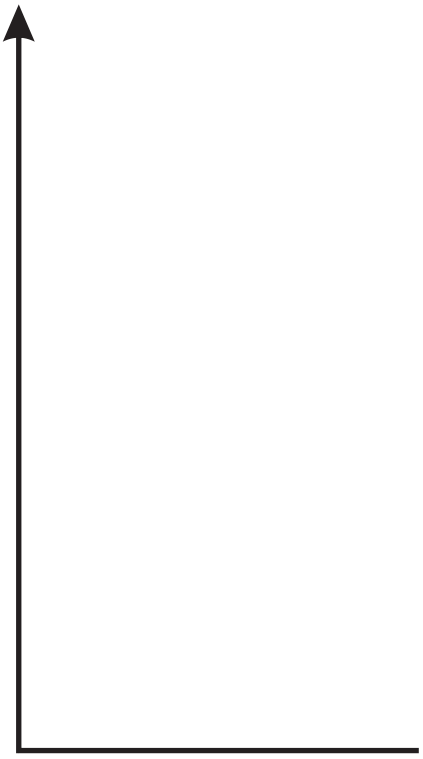
_____

_____

Ask 20 people the question and record the responses on the table below.

Response	Tally	Number
YES		
NO		
	Total	

Complete the column graph below displaying your results.

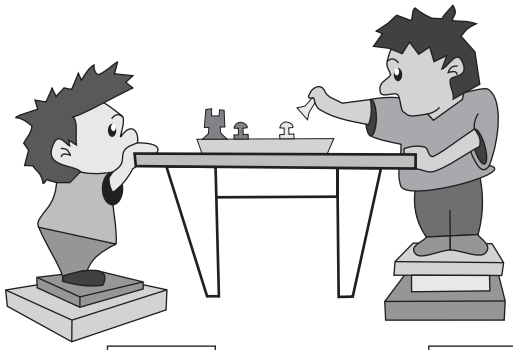


PROBLEM SOLVING 1

MARK

31

1. Youssef and Tahg were playing chess. The loser of each game gave the winner a chocolate. They played 12 games and Youssef ended up with two more pieces of chocolate than Tahg.
How many games did they each win?



Youssef ☐ Tahg ☐

2. Ashleigh had 8 black socks and 8 white socks in her sock draw. She took socks out of her draw one at a time without looking at them.
(a) How many socks would she need to take out of the draw before she definitely had a pair? ☐

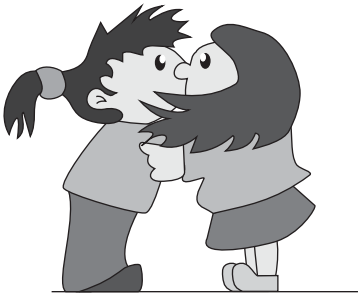
(b) How many socks would she need to take out of the draw before she definitely had a pair of black socks? ☐

3. Ally, Kellie, Sally and Nellie each chose a different sport to play. The four sports they chose from were tennis, netball, basketball and squash.
Use the information below to find which sport each girl played.

- Ally shot goals in her sport
- Sally watched one of the other girls play tennis
- Sally needed a racquet to play her sport
- Nellie dribbled a ball in her sport

Ally	
Kellie	
Sally	
Nellie	

4. Four friends, Adelaide, Matilda, Holly and Greta, gave each other a kiss when they got back to school after holidays.
How many kisses were there?



☐

5. A palindrome is a word or number that reads the same forwards or backwards.

Examples of palindromes:
1331 8225228 pup Glenelg

(a) Rearrange the following letters to form words that are palindromes.

DDA **UMM** **YAKKA**

MADMA **ARARD**

(b) Hayley looked at the time she was eating lunch and noticed it was a palindrome - **1221**. How many minutes before the next time that is a palindrome?

(c) Complete this multiplication to show the answer is a palindrome.

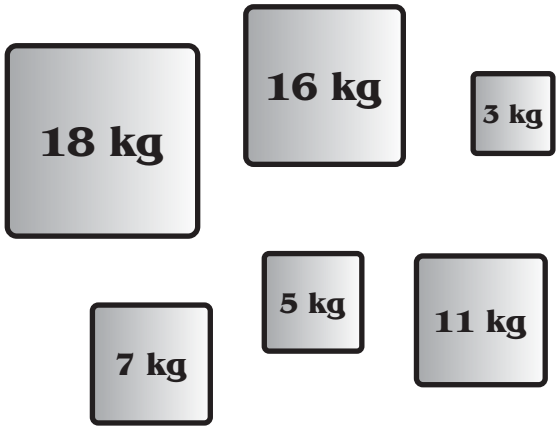
$$1234321 \times 11$$

(d) Change **MUM** into **DAD** in three steps by changing one letter at a time to form a new word.

Example
CAT can be changed into **DOG** in three steps.
CAT
COT
DOT
DOG

M	U	M
D	A	D

6. Caleb has to stack the six boxes below onto **two** shelves.
The mass of each box is shown.
Each shelf can only support 30 kg.
Show which boxes should be placed on each shelf.



Shelf 1

Shelf 2

7. When it is 8 a.m. in Victoria it is 6 a.m. in Western Australia.
(a) A plane leaves Melbourne at 3 p.m. and takes five hours to fly to Perth.
What will be the time in Perth when the plane arrives?

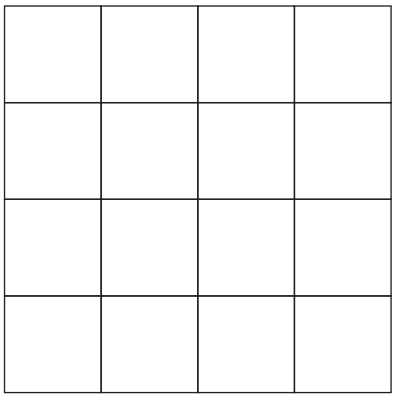
(b) It leaves Perth the next day at 10 a.m. to fly back to Melbourne.
What will be the time in Melbourne when it arrives?

PROBLEM SOLVING 2

MARK

32

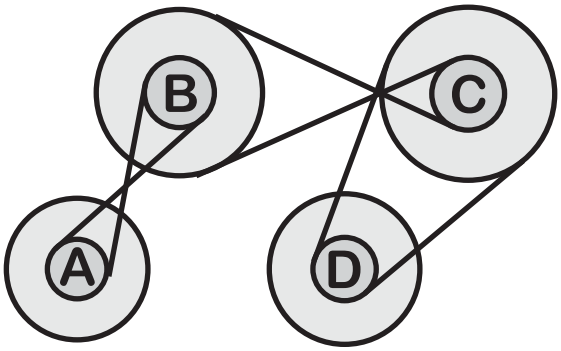
1. In the grid below colour in four squares red, four blue, four yellow and four green so that no colour is repeated in a row, a column or diagonally.



2. Hervey had an assignment to write. It had taken him two hours to complete one-fifth of the assignment.
How much longer would it take Hervey to finish his assignment?

3. There were six players in a badminton tournament. Each player had to play each other player once and the top two players then played a final.
How many games were in the tournament?

4. The four pulleys below are connected by belts as shown. If pulley A turns clockwise, which direction would each of the other pulleys turn? (Clockwise or anticlockwise)



Pulley	Direction of Rotation
A	Clockwise
B	
C	
D	

5. James had a length of rope. He cut it in half and then cut each of these pieces into quarters.
(a) How many small pieces would James have?
(b) What fraction of the original length of rope was each of the small pieces?

6. Fiona wanted to make a drink using fruit syrup and soda water. She had a one litre bottle of fruit syrup and three litres of soda water.
Fiona mixed one tenth of the fruit syrup with half of the soda water.
How many litres of drink did she make?

7. It took William six minutes to run four laps of the school oval.
How many seconds did it take William to run each lap?

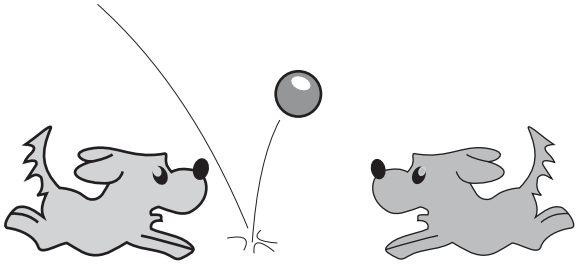
8. Freya took 12.6 seconds to run the 100 metre race. She beat Miffany by two-tenths of a second.
What was Miffany's time to run the race?

9. Danny had a bag that contained a number of Gumbledits and Marokes. A Gumbledit weighs 1.62 kg and a Maroke weighs 1.76 kg.
The total mass of the Gumbledits and Marokes in Danny's bag was 10 kg.
How many Gumbledits and Marokes were in the bag?

Gumbledits ☐ Marokes ☐

10. Two dogs, Pixie and Ziggy, were sitting next to each other. At the same time they started to run in opposite directions. Pixie ran at 2 metres per second and Ziggy ran at 3 metres per second.
(a) How far apart would they be after 5 seconds of running?

(b) When they were 60 metres apart they turned around and ran back towards each other. How long would it take them to get back together?



11. A snail was sliding up a 42 cm high wall. The snail could slide 10 cm in 5 minutes but then had to rest for 1 minute. When it rested it slid back down the wall 2 cm.
How long would it take the snail to get to the top of the 42 cm wall?