Grade 7 NAPLAN preparation pack:

Below is a guide with example questions to use with students preparing for NAPLAN for three weeks prior to the test. By this stage students are expected to have spent a term working with *Back-to-Front Maths* in order to help find and correct their misconceptions, particularly with regard to fractions and place value, and to develop deep understandings of mathematical concepts. The questions in this pack will help you work out where students still have problems and will give students some practice at answering non-standard questions before the test. They are not intended as a complete package and do not cover every aspect of numeracy that could be on the NAPLAN tests.

How to use the pack:
Allow students to try the problems for each day first, and then talk them through as a class. Make sure that you try to have students self-correct their own misconceptions rather than telling them the answers. Misconceptions are often present in the multiple choice NAPLAN questions and help determine if students have deep understanding or just routine, procedural skills.

Below is a suggested sequence for using the questions. The questions for each day are nominally drawn from a particular strand, but often contain questions that could be used for another strand. Each day's questions are not expected to take the same amount of time or be a complete lesson.

Week 1: Consolidating Number Concepts

1. Place value
2. Equations and operations
3. Equations and operations
4. Number patterns
5. Fractions: basic concepts

Week 2: Extending number concepts and chance and data

6. Fractions: advanced concepts and conversions
7. Chance
8. Data
9. Measurement and conversions
10. Measurement and conversions

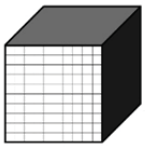
Week 3: Measurement and Space

11. Time and schedules
12. 2D shapes and transformations
13. 3D shapes and transformations
14. Maps and directions

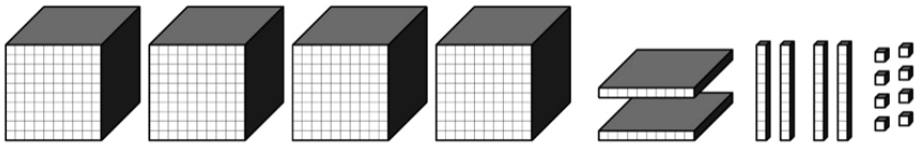
Day 1: Place value

1. Colour the star that shows where the number 1000 should go.

2. Which of the following representations is **not** equal to 3547?

Thousands 	Hundreds 	Tens 	Ones 
3	5	4	7
2	15	2	27
2	13	22	27
X 3	4	15	7

3. If you had to start building your 10 000 by using the following MAB blocks, what others would you add to them to make 10 000?



5752

4. Write the following number in digits: 32 thousands, 43 hundreds and 784 ones:

37084

5. Write the number for the following words: Thirty-two hundred and six.

3206

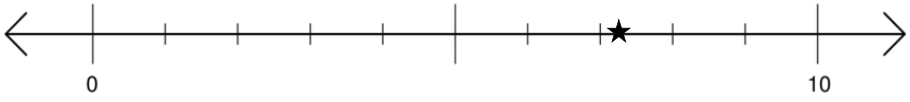
6. For the following set of numbers, find the half-way point between the largest and the smallest: 10.001, 11.010, 11.000, 10.101. Calculator allowed.

10.5055

7. The star on the number line below shows the position of one of the numbers listed. Circle the correct number.

*

0.7 0.73 7.3 7.03

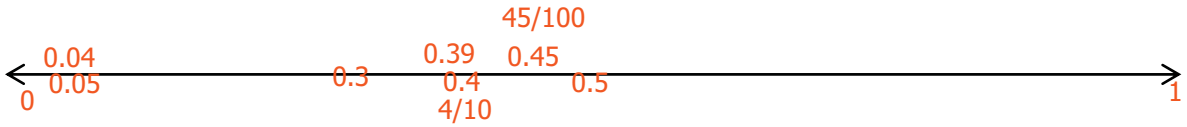


8. Here is a picture of 23 made using MAB. What would I need to put with it to make it 23.7? What would you need to do to make the .7 part?

Two *Tens* Three *Ones*

A. Use seven of the *Ones blocks* and put a dot between them and the 23.
B. Use a *Tens block*. Shade in 7 out of the 10 pieces.
C. Cut a *Ones block* into 7 pieces. Use all of the pieces.
X D. Cut a *Ones block* into 10 pieces. Use seven of the pieces.

9. Label one end of the line below 0 and the other end 1. Find and label the following numbers: 0.4, 0.45, 0.39, 0.04, 0.3, 0.5, $^{45}/_{100,}$ $^{4}/_{100}$, $^{4}/_{10}$ and 0.05 on the line.



10. If I had 678 hundredths, what number would I have? 6.78

11. How many hundredths would there be in 12.6? 126

12. Which of the following representations is not equal to 2.34?
A. $2 + {}^{3}/_{10} + {}^{4}/_{100}$
X B. $2 + {}^{3}/_{10} + 0.4$
C. $2 + 0.3 + {}^{4}/_{100}$
D. $1 + {}^{13}/_{10} + 0.04$

13. If I owed $10 and paid back $5, what would my bank balance be?
A. -$15
B. $15
C. -$5 X
D. $5

Days 2 and 3: Equations and operations

1. I'm having a party. 8 people (including me) will be there. Everyone needs to have 3 cups of drink. One bottle holds 5 cups. How many bottles do I need to buy?

   5 bottles needed for the 24 drinks

2. 57 customers were served over a period of one and a half hours. What is the average number served per hour?

   57/3x2 =38

3. Each person at a party needed 3 pieces of pizza. Each pizza had 8 slices. How many people would there need to be before all the pieces of the pizzas ordered were eaten?

   Need a number that is a multiple of both 3 and 8 for eating whole slices. 24 slices, which is 3 whole pizzas or 8 people ordering.

4. After my cents were rounded to the nearest 5c, I paid $7.05. What **could** the total have been before the money was rounded?

   7.03, 7.04, 7.05, 7.06, 7.07 all are ok

5. Apples cost $3.98 per kilogram. About how much money would it cost me to buy three kilograms of apples?

   a. $4
   b. $9
   c. $12 x
   d. $20

6. Cupcakes cost $8.05 per packet of four. If I was splitting the cost with my friends so that we each got one cupcake about how much should we each pay?

   a. $3
   b. $2 x
   c. $1
   d. $4

7. I want to work out the minimum distance that I walk in a day for a new exercise program that I am trying. In the mornings I walk 3.87km. In the afternoon I walk 2.10km. In the evening I walk 4.75km. What is the approximate minimum distance that I walk each day?

   A. 9km B. 10km C. 11km x

8. My bank balance was $100. I spent $24.89 on clothes and $30.12 on groceries. How much money do I have left approximately?

   A. $55 B. $54 x C. $45 D. $46

9. Fill in the boxes or blanks in the following operations. No calculators.

$$\begin{array}{r} 6\boxed{8} \\ \times \quad 7 \\ \hline 4\ 7\ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3.2 \\ 6\overline{)\ 19.2} \end{array}$$

$$\begin{array}{r} \text{H}\ \ \text{T}\ \ \text{O} \\ 8\ \boxed{1}\ 2 \\ \times \qquad \boxed{4} \\ \hline 3\ 2\ 4\ 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \text{ rem } 2 \\ 5\overline{)\ 17} \end{array}$$

10. I started with a certain bank balance. Work paid me $75.85. After I was paid my bank balance was $265.90. What was it before I was paid?

265.90 - 75.85 = 190.05

11. 2 3 0 x [0.2] = 4 6

12. I had a ream of fabric for making dresses with. I used up 1.5m on the first dress. I had 2.7m left. How much fabric was on the ream to start with?

1.5 + 2.7 = 4.2

13. 3.5 ÷ 0.5 = 7

14. Put the decimal points into the following equation. What other possibilities are there? Write as many as you can:

1 2 4 x 2 = 0. 2 4 8 any possibility with 3 decimal places

1.24 x .2

0.124 x 2

124 x 0.002 etc.

15. Put the decimal points into the following equation and fill in the box. What other possibilities are there? Write as many as you can:

$56 \div \boxed{800} = 0.07$

5.6 / 80
0.56 / 8
0.056 / 0.8 etc.

16. Put brackets into the following equation so that the answer is 10.88 instead.

$1.2 + 4.3 + 2.1 \times 1.7 = 12.08$

This cannot be done, and the original answer is also wrong.
To do it, cross off the 1.2, and have (4.3 + 2.1) x 1.7

17. What number has the following as multiples: 36, 50 2

18. What number has the following as factors: 1, 2, 3, 4, 5, 6 60

19. Some friends shared jelly beans between them. They started with 33 jelly beans. When all the jelly beans had been shared each person had 5 jelly beans and there were 3 left over. How many friends were there? 6

20. Monika watches 2 hours more TV than Jack. Use this to complete the table:

Jack's TV hours	2	3	4	5	6
Monika's TV hours	4	5	6	7	8

21. I halve my mystery number then subtract 3 to get 2. What is it? 10

22. Starting with my mystery number, I double it, then add two, then halve it and am left with 4. What is the mystery number? 3

23. Fill in the box with a number to make the number sentence correct

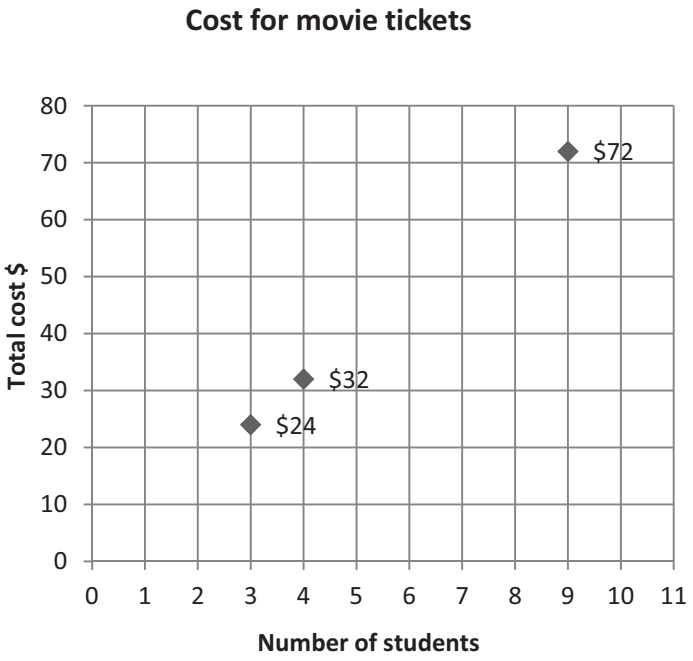
$74 - 25 < \square \times 8$ any number bigger or equal to 7

24. There was a special on buying 12 months membership at the Gym. They advertised that your first month was free. How much does the membership cost for 12 months on sale?

Length of Gym membership (months)	3	6	9	12	15	18	21	24
Cost of Gym membership		$42				$126		

$42/6 = 7 $126/18 = 7 Costs is $7/month. On sale would only pay for 11 months, so would cost $77

25. Join the data points to complete the following graph and answer the questions.



Questions:

1. How much would it cost for one student to go to the movies? Work it out.

   $8

2. Describe the pattern or rule:

   cost = students x $8

26. John had 2 chocolate bars, both with the same number of pieces in them. He ate 13 of the pieces. This left him with 43 pieces of chocolate altogether. The chocolate bar came in rows of 4. How many rows were in a bar?

    13 + 43 = 56 pieces originally between 2 bars.

    56 / 2 = 28 pieces per bar. 28 / 4 = 7 rows.

27. At the end of the day I had $20.05. During the day I had bought clothes for $45.48 and lunch for three people for $5.73 each. 1.) How much money did I start with? 2.) If one of my coins at the start of the day was a 20c piece, what other money could I have had?

1. 5.73 x 3 + 45.48 +20.05 =

   17.19 + 45.48 + 20.05 =

   Remember rounding! Can't actually spend that money in cash!

   17.20 + 45.50 + 20.05 = $82.75

2. would need $82.55. Could make this in a number of different ways.

28. The following statements can be written as equations using D for Darren's age and M for Mark's age. Try writing the equations for them. Then work out Mark's age if Darren is now 5.

    a. Darren is one year more than twice Mark's age.

    D = 2M + 1 5 = 2M + 1 4 = 2M Mark is 2

    b. In one year's time Mark will be twice as old as Darren.

    D + 1 = 2(M+1)

    5 + 1 = 2(M + 1) 6 = 2(M +1) 3 = M + 1 M = 2 years old again

    c. Mark is one year more than three times Darren's age.

    3D + 1 = M 15 + 1 = M M = 16 years old

    d. One year ago, Mark was twice as old as Darren

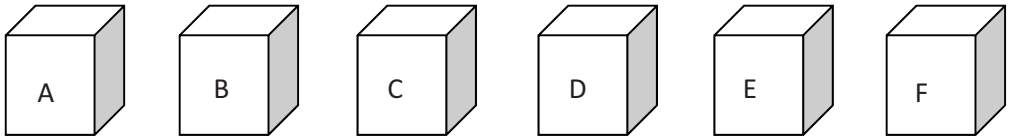
    2 (D - 1) = M - 1

    2 (5 - 1) = M - 1 8 = M - 1 M = 9

Day 4: Number Patterns

1. In each soccer game we scored two more points than the other team. If the other team's scores were: 0, 2, 1, 2, 3, how many points did we score altogether?
   2, 4, 3, 4, 5 total = 18

2. There are six possible boxes. The right box weighed twice as much as one of the lighter boxes and three times as much as another.



400g 450g 300g 800g x 900g 460g

300 x 3

450 x 2

3. Jemma has drawn 10 counters from a bag. 3 are red, 2 are blue, one is black and the rest are green. Using the key below, what would she end up with if she tried to swap as many counters as possible for red? Draw the counters that she would have

   1 red counter = 3 green counters.
   1 black counter = 4 red counters.
   1 blue counter = 2 red counters.

   starts with 3 red, 2 blue, 1 black, 4 green
   swaps with 3 red, 4 red, 4 red, 1 red + 1 green
   ends with 12 red and 1 green

4. A pattern was made using the following rule: subtract 3. If the last number in the pattern was 14, what were the previous 3 numbers? What would the next 2 numbers be?

   17, 20 were the previous 2 11, 8 would be the next 2

5. 3, 11, 19, 27, 35, 43, 51, 59 What is the rule? add 8

6. 2, 6, 18, 54 , 162, 486, 1458 multiply by 3

7. The rule is 'add 12'. Fill in the blanks:

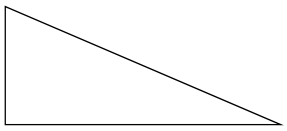
   7, 19, 31, 43, 55

Fill in the term at the start and the term at the end

a. 1, 2, 4, 8, 16, 32, 64, 128
b. 1, 6, 11, 16, 21, 26, 31, 36, 41, 46
c. 35, 32, 29, 26, 23, 20, 17, 14, 11, 8, 5
d. 2/3, 2, 6, 18, 54, 162, 486
e. 57, 52, 47, 42, 37, 32, 27, 22, 17

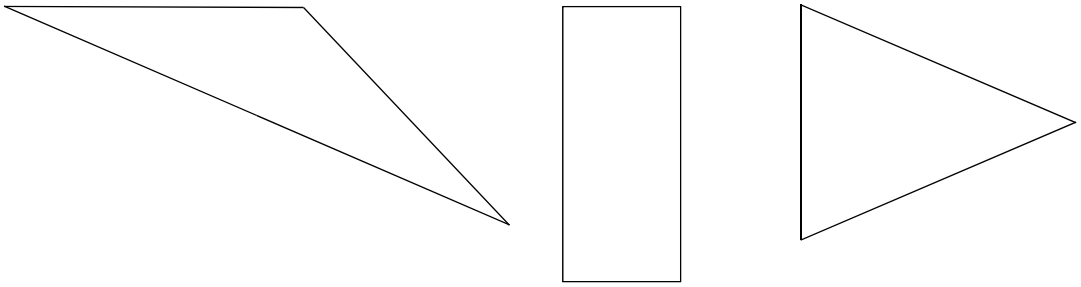
Day 5: Fractions 1 – Basic concepts

1. This is one half of a shape. What could the original shape have looked like?



A. B. C. D. all of them

x



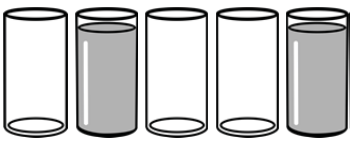
2. Some chocolate is shown below. How many pieces make up one quarter of the chocolate?

A. 1
B. 4
C. 3 x
D. 2

3. Two thirds of a collection of shells was four shells. How many shells are in the whole collection?

6

4. What fraction of the group of glasses below is full?



A. 2/3 B. 3/2 C. 2/5 D. 3/5

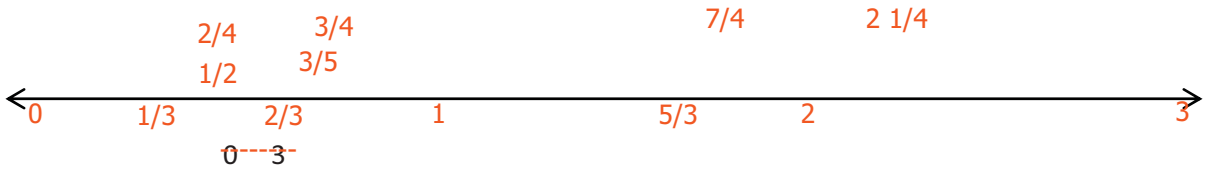
x

5. My friends were arguing about whether 1/4 or 1/5 was bigger. Jen said 1/5 was bigger because 5 is bigger than 4. Belle said 1/4 was bigger because the whole was broken into less parts. Who is right? How do you know?

1/4 is bigger than 1/5

6. On the line below, work out where each of the following fractions go:

Two, one half, one third, two thirds, one whole, five thirds, two quarters, three quarters, seven quarters, two and one quarter, three fifths



7. What fractions could give a decimal answer of 0.2? List as many as you can:

1/5, 2/10, 3/15 etc. any equivalent to 1/5

8. If the answer was $^{7}/_{12}$ and one of the fractions that was added was $^{1}/_{2}$, what was the other?

1/12

9. $^{1}/_{7}$ of a number is 3, what is $^{4}/_{7}$ of the number?

12

Day 6: Fractions – advanced concepts and conversions

1. Some kids were playing in the pool. One third of the group went and bought ice creams. There were 4 kids who bought ice creams. How many didn't buy ice creams?

   8

2. There was a shirt on sale for 40% off the marked price of $20. How much did the shirt cost?

   $12

3. A shirt that has been reduced by 25% now costs $12. What was the original price?

   $16

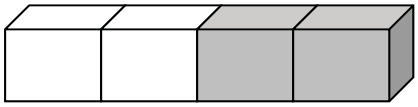
4. Fill in the boxes to make the following equation correct. The same number goes in each box.

$$\frac{1}{\boxed{2}} + \frac{\boxed{1}}{12} = \frac{7}{12}$$

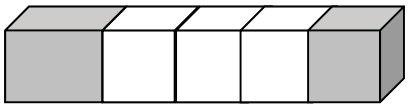
5. If I ate ¾ of a pizza and my friend ate ¾ of another pizza, how much pizza did we eat altogether? How many whole pizzas did we need to buy?

   1 1/2 pizzas eaten, 2 pizzas bought

6. What fraction are these pictures showing? Can you work them out?



1/2



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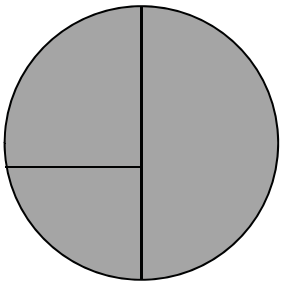


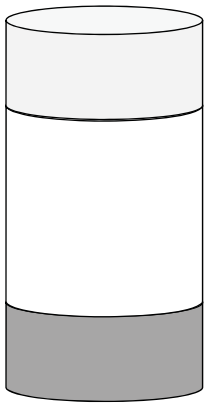
no

7. Jack got 90% on his test. The test had 50 questions. How many did he get wrong? 5 wrong

8. Danielle found that she could make 12 ¼ cookies from each batch of dough. How many batches do you think she cooked to work this out? How many cookies is this?

   made 4 batches, which had a total of 49 cookies (3 batches had 12 and 1 batch had 13)

9. The picture below shows how a mocktail is mixed in a glass. The glass has three layers. The darkest grey layer is the orange juice. What decimal number represents the fraction of orange juice?



A. 1.3
B. 0.14
C. 0.13
D. 0.25 x

10. What would the GST component be on the following dresses?

a. $10 dress 10/11 = 0.91 provided that this is the "gst inclusive price"

b. $40 dress 40/11

c. $9 dress 9/11

to explain: non-GST + 10% of non-GST = GST inclusive price
110% non-GST price = GST inclusive price
110% non-GST = 100% of GST price
11 lots of 10% = GST inclusive price
so to get the GST (10% of non GST price) we need to divide the GST price by 11 not 10

11. 20% of a group of friends went to the movies. If 12 people chose not to go, how many people were there in the group altogether?

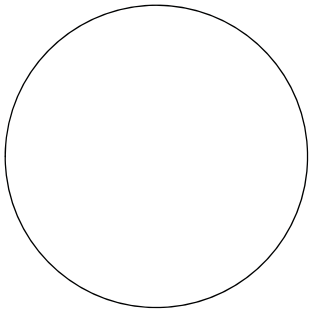
12 people = 80% of the group
3 people = 20%
total people = 12 + 3 = 15 people

Day 7: Chance

1. If an experiment gave the following results for 40 spins of a spinner, draw what you think the spinner might look like:

   Red: 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸

   Blue: 𝍸 𝍸



3/4 red, 1/4 blue

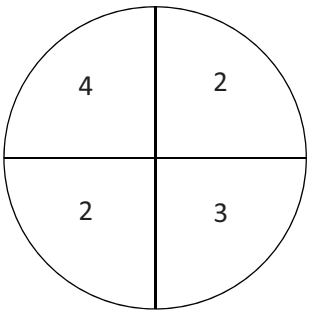
2. What fraction of the spinner is red?

3. If you were to double the chance of getting a blue result, how would that change your fractions?

   3/5 red, 2/5 blue

4. Order the following events from the least to the most likely:
   a. Drawing a spade 1/4
   b. Drawing a face card (Jack, Queen, King) 3/13
   c. Drawing an Ace 1/13
   d. Drawing a red card 1/2
   e. Drawing a number less than or equal to five 5/13
   f. Drawing the Queen of diamonds 1/52
   g. Drawing two cards the same 0/52
   h. Drawing a card more than five 8/13

5. Students were using the following spinner. Which of the following scores is impossible if a student had 4 spins?



x

A. 16 B. 11 C. 10 D. 7

6. If the possible total scores for rolling two dice was: 2, 3, 4, 5, 6, 7, 8 what were the numbers on the dice and how many faces did they each have?

   numbers could be 1, 2, 3, 4
   could have any number of faces, as long as those were the only numbers on them

7. The average birth weight for babies is 3.5 kg. Decide whether the following statements are likely or unlikely to be true.

   → A baby would be considered to have a low birth weight if it was less than 2.5 kg. likely

   → Most babies' birth weights are between 2.5 and 4.5 kg. likely

   → A baby weighing 4 kg would be considered to have a high birth weight. probably pretty normal,

   → A baby weighing 3.4 kg would be considered to have a normal birth weight. likely

Day 8: Data

1. If I had included the following questions in a survey, what do you think the aim of the survey would be?

   How do you travel to work in the morning?
   How often do you use public transport to get to work?
   Aim of survey: find out about public transport use

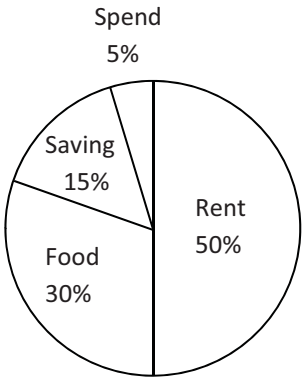
2. A class of 20 students took a survey about their favourite colours. The same number of students liked red, blue and yellow. Two students liked green. Fill in the tally chart below.

Red	
Blue	
Yellow	
Green	I I

these would each have 6

3. Which of the following information can be interpreted from this graph?

Anita's budget per week: $200



1. A. Anita should save more money
2. B. Anita spends $170 per week x this one is true
3. C. Anita spends 5% of her income
   D. Anita spends $30 per week on food

4. If the average for five people's heights was 155cm, what could their heights be?

   any 5 that add to 775cm

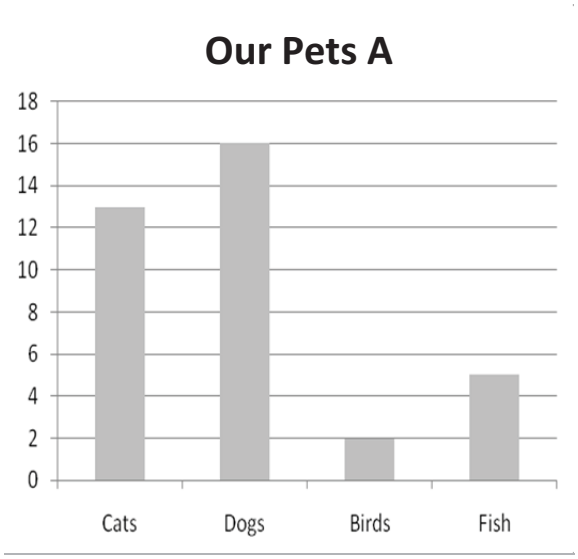
5. If the average pocket money for two children was $8.45, what could each child have for pocket money?

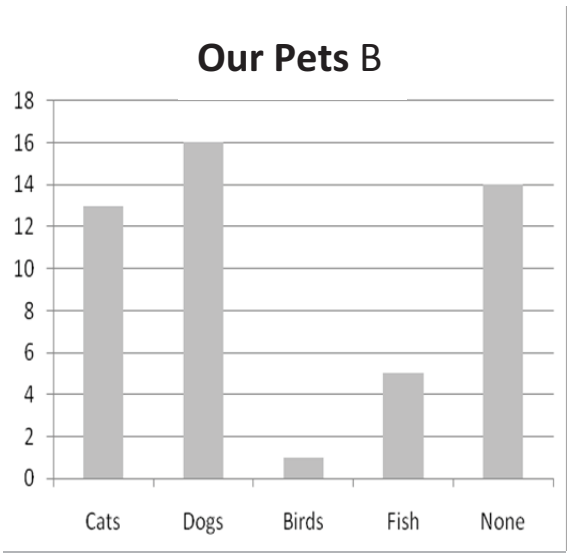
   any amount that adds to $16.90

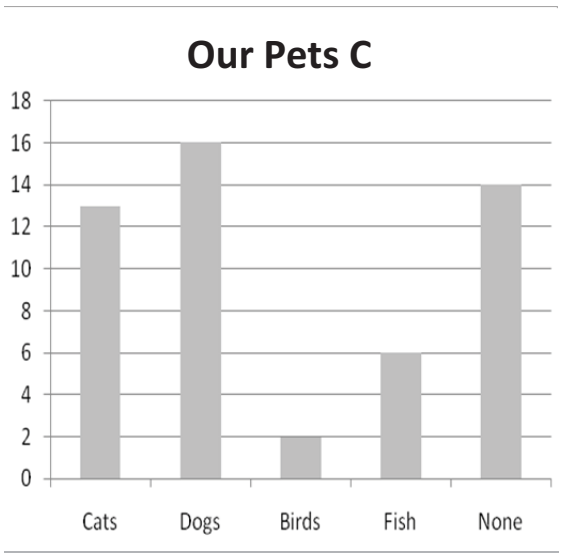
6. The following data was collected by a grade 4 class about what pets students had. Use the table to work out which bar graph is the right one to include.

Our pets:

Cats	13
Dogs	16
Birds	2
Fish	5
None	14







Which of these graphs do you think is correct? Explain your answer:

none are correct as:
A - missing "none"
B - wrong birds
C - wrong fish

Use a pencil to correct the incorrect graphs.

7. The mean for the following sets of numbers is 10. Work out what is missing from each set:

Set 1: 12, 13, 7 8

Set 2: 9, 11, 10.5 9.5

8. If the mode was 12 but the median was 10, what could the data be?

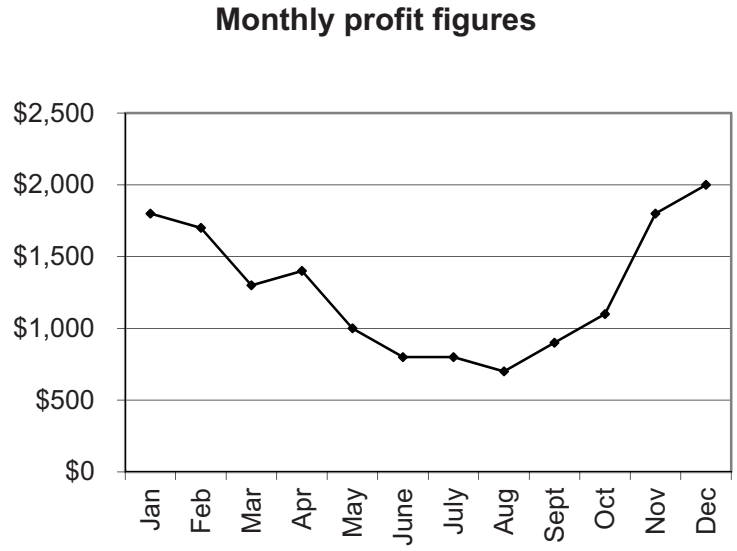
8, 9, 10, 12, 12 Any set of scores where the middle is 10, but the most common is 12

9. Table 1: plant growth

Plant number	Height at the start	Height after 1 week	Height after 2 weeks	Height after 3 weeks
1	2cm	4cm	5cm	6.5cm
2	2.5cm	4.5cm	6.5cm	8.5cm
3	2cm	4cm	6.5cm	9.5cm

1. Why did plant 3 grow more than plant 1? no way of knowing
2. Which plant grew the least amount from start to end? plant 1
3. Which plant grew at an average of 1.5cm each week? plant 1
4. Which plant's growth rate increased? plant 3
5. Predict the size of each plant after 5 weeks. plant 1: 2 + (1.5 x 5) plant 2: 2.5 + (2 x 5)
   plant 3: 2 + 2 + 2.5 + 3 + 3.5 + 4

10. Monthly profit figures



1. Which month recorded the lowest monthly profit?

August

2. Which months did the business lose money?

it didn't ever

3. Estimate the monthly profit throughout the year:
   a. $500 - $1000
   b. $1000 - $1500 x
   c. $1500 - $2000

4. One year the business reported an annual profit of $19 000. Do you think they were telling the truth?

it is fairly unlikely
would need to average $1583/month

Days 9 and 10: Measurement and conversions

1. Which of the following shapes uses the most blocks?

   Shape 1: Base length: 4 MAB, Base width: 2 MAB, Height: 5 MAB 4 x 2 x 5 = 40

   Shape 2: Base length: 5 MAB, Base width: 2 MAB, Height: 4 MAB 5 x 2 x 4 = 40

   Shape 3: Base length: 3 MAB, Base width: 2 MAB, Height: 6 MAB 3 x 2 x 6 = 36

   Shape 4: Base length: 4 MAB, Base width: 3 MAB, Height: 3 MAB 4 x 3 x 3 = 36

2. You have been given the following recipe for **Grade 7 Cordial Concoction:**

   5mL each of lemon cordial and lime cordial
   10mL each of raspberry cordial and black currant cordial
   220mL cold water

   If you increased the volume of lemon cordial to 20mL, and increased everything else to match so that the ingredients were in the right ratios, what volume of cordial would you have once it was all mixed together? Multiplying everything by 4: total would be 250 x 4 = 1L

3. If a regular pentagon had a side length of 6cm, what would the perimeter be? If a regular hexagon had the same perimeter how long would its sides be?

   5 x 6 = 30

4. An elevator can hold 660kg in weight. Choose which of these people can ride in it safely:

   Zack 54kg, Jayden 68kg, Zoe 65kg, Amanda 45kg, Thomas 78kg,

   Jillian 63kg, Kayla 58kg, Mark 84kg, Emma 72kg, Diana 73kg,

   Rohan 56kg, Jared 60kg, Hayden 66kg, Ben 75kg, Larissa 52kg

   Lynda 67kg, Ian 82kg, Rachel 61kg

   any that adds up to less than 660

5. If the perimeter of two squares side-by-side was 60m, what was the side length of one square?

   10cm

6. If the area of a rectangle was 12, what could its perimeter be?

   could by 4 x 3, so perimeter of 14
   could be 6 x 2, so perimeter of 16 ..... lots of possibilities

7. Your soccer team had a 10L drinks cooler for the team to use. If there are 9 kids on your team, how much water does each person get?

   10/9 = 1L and 111mL

8. If the volume of a rectangular prism was 100cm^3, what could its sides be?

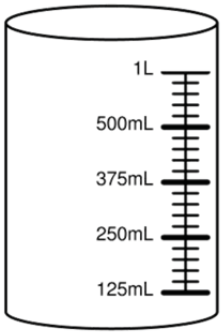
Any three numbers that multiply to give 100: 5 x 2 x 10 etc.

9. If 20 shoes placed heel to toe fit across the length of your classroom, about how long would it be in metres? Explain how you worked it out.

25cm (estimate) x 20 shoes = 5m

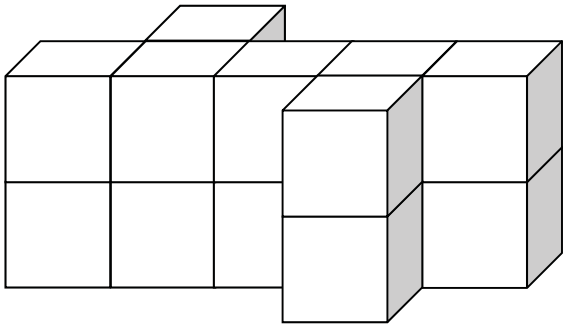
10. For each of the measuring instruments below, which gradation is wrong? Why?

both 5 and 10



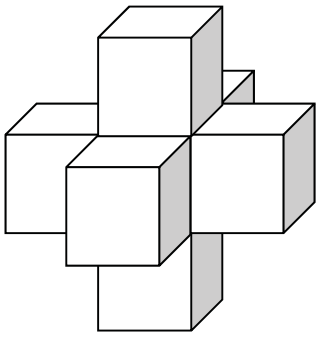
1L

11. For the shape below: work out how many cubes there are and then work out how many squares there are on the outside.



14 cubes
46 squares

12. How many square faces are touching another square face (the square faces inside the shape)?



6 in the middle (one cube in the middle has all faces touching), and another 6 (one each for the 6 cubes on the outside)

13. My toy weighed 125g. Corey's car weighed more than my car, but less than Jenny's car. Jenny's car weighed less than Nick's car. If Jenny's car weighed 170g, what could Corey's and Nick's cars each weigh?

Corey's between 125 and 170, Nick's over 170

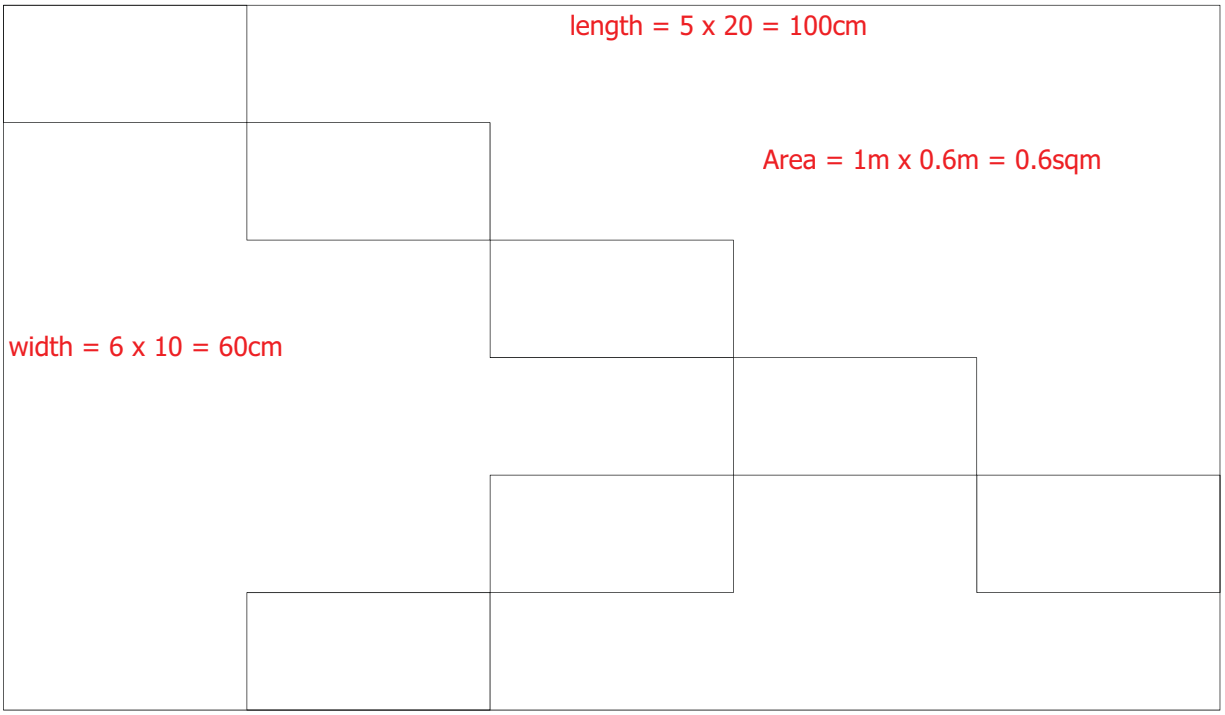
14. Change 35cm to km: 0.00035 (would be 0.35m, or 0.00035km)

15. How many centimetre cubes would fit in a cubic metre? What would the volume be in Litres?

1 million cubes (100 x 100 x 100)
1 000 Litres (each litre is 10 x 10 x 10cm)

16. One tile measures 20cm x 10cm. The diagram below shows how it looks in your cupboard.

How long and how wide is the cupboard? What is the area of the cupboard in square metres?



Day 11: Time and schedules

1. If I needed to leave the house at 14:25, but wanted an alarm to go off 34 minutes before I left, what time would I set the alarm for? Draw it:

13:51

2. Starting from 7.01.05 James paid rent every fortnight. Circle in black the days that James paid rent. Which of the following is a date on which James would pay rent?

January 2005						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

February 2005						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

March 2005						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April 2005						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May 2005						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June 2005						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

July 2005						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August 2005						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September 2005						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October 2005						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

November 2005						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

December 2005						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

3. Jared's birthday was on August 13th. If he started planning his party 28 days before then, when did he start planning it?

16th July (look at the calendar and count back 4 weeks)

4. James fell sick and had 23 days off work. If he went back on November 15th 2005, when did he work last before going on sick leave?

   4 weeks and 3 days - 13th October

5. Justin has come up with the following timetable to help him to study more effectively and do two hours of homework each night. Unfortunately he has tried following it for 2 weeks now and has found that it is not working. Find out why and adjust the timetable for Justin so that it does work.

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6.30	Practise drums	Practise drums	Practise drums	Practise drums	Practise drums	Sleep in	Sleep in
7.30	Breakfast and get ready for school	Breakfast and get ready for school	Breakfast and get ready for school	Breakfast and get ready for school	Breakfast and get ready for school	Sleep in	Sleep in
8.30	School and travel time	School and travel time	School and travel time	School and travel time	School and travel time	School and travel time	School and travel time
3.30	Cricket practice	Afternoon tea	Afternoon tea	Afternoon tea and TV	Afternoon tea and TV	Homework	Play cricket
4.30		Homework	Homework	Homework	Homework	Homework	
5.30	Homework	Homework	Homework	Homework	Homework	Practise drums	
5.30	Homework	Drums lesson	TV	Youth group	Cricket practice	TV	Practice drums
6.30	Family dinner		TV and dinner			Dinner	Dinner
7.30	TV	TV and dinner	Study and assignments		TV	TV	Study and assignments
8.30	Study and assignments	Study and assignments	Study and assignments		Study and assignments	TV	Study and assignments

5.30 shows up twice

6. Below is a train timetable for a trip between Brisbane and Townsville. If the train is delayed leaving Bundaberg by 35 minutes but makes up 17 minutes on the trip, what time does it get to Townsville?

BRISBANE TO TOWNSVILLE

TUESDAY AND SATURDAY

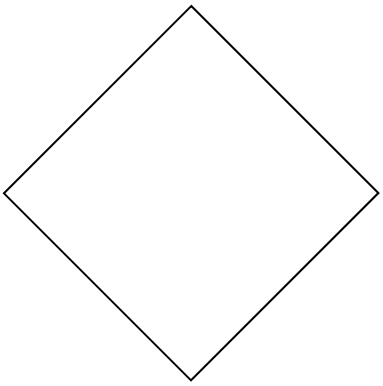
Brisbane (Roma Street)	dep	1:45pm
Caboolture	dep	2:35
Nambour	dep	3:56
Cooroy	dep	4:10
Gympie North	arr	4:59
	dep	5:09
Maryborough West	arr	6:32
	dep	6:36
Bundaberg	dep	7:41
Miriam Vale	dep	9:13
Gladstone	dep	10:19
Mt Larcom	dep	10:48
Rockhampton	dep	11:45
St Lawrence	dep	3:10
Carmilla	dep	3:56
Sarina	dep	4:55
Mackay	arr	5:26
	dep	5:36
Proserpine	dep	7:46
Bowen	dep	8:41
Home Hill	dep	10:06
Ayr	dep	10:27
Townsville	arr	11:50am

18 minutes late

12:08

Day 12: 2D shapes and transformations

1. Shapes can sometimes fit into multiple categories. Examine the shape below. Which of the category would it NOT fit into?



Square

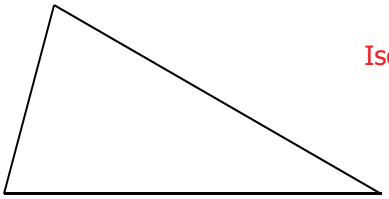
Cube x

Rectangle

Quadrilateral

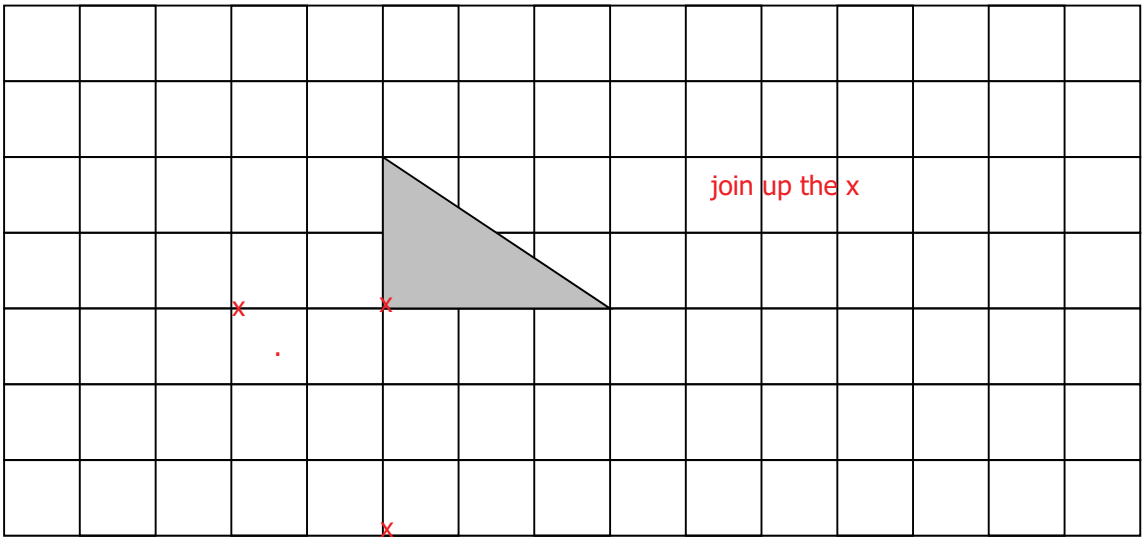
2. What type of triangle is pictured below?

A. Isosceles B. Scalene C. Equilateral D. Right-angled



Isosceles (just on its side)

3. The shape below has been flipped vertically and then rotated clockwise by 90°. Draw roughly what it looked like before that happened.



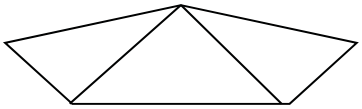
4. If one angle of a triangle was 45° and another was 60° what would the third angle be?

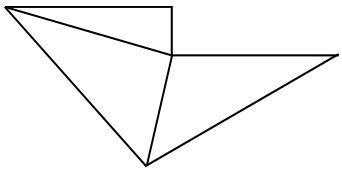
75

5. Which angle would look the same as an angle of 450°?

   A. A right angle x
   B. A straight line
   C. An acute angle
   D. An obtuse angle

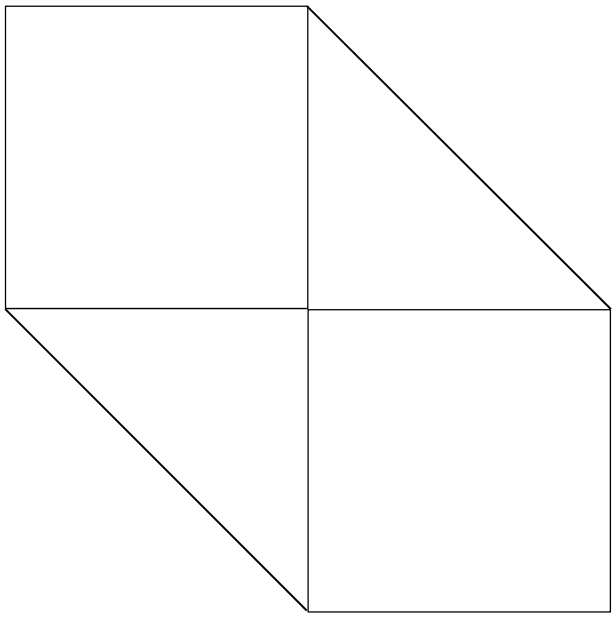
6. The pentagons below have been each divided into three triangles. Use these to help you work out how many degrees there would be in each.





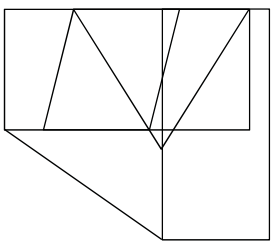
3 x 180 = 540o

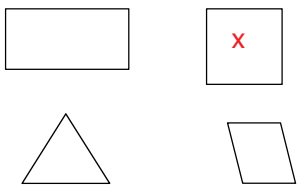
7. The shape below consists of two squares that are joined at the corners with a set of parallel lines. Your job is to work out the internal angles of the triangles that are formed.



2 lots of 45 and one of 90

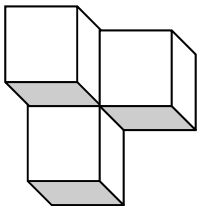
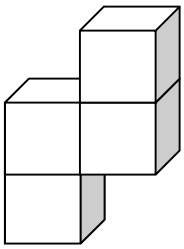
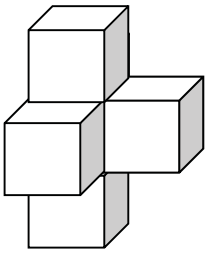
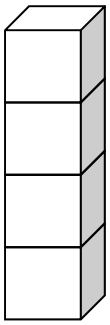
8. The following picture has been created by shapes. Which of the shapes below is not in this picture?





Day 13: 3D shapes and transformations

1. Which of the following shapes could not be made from four blocks that could connect to each other by their faces?

x

2. If a pyramid had a pentagon on the base, how many edges would it have?

10

3. A 3D shape had 5 faces. Name two possible 3D shapes that it could be.

square based pyramid, triangular prism

4. What 3D shape other than a cube would have six congruent faces?

6 equilateral triangles stuck together

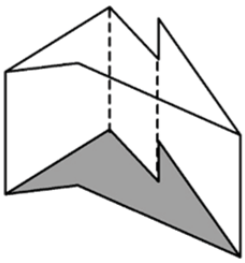
5. The following are pictures of a 3D shape sliced through the middle at various angles.

What shape it?



cone

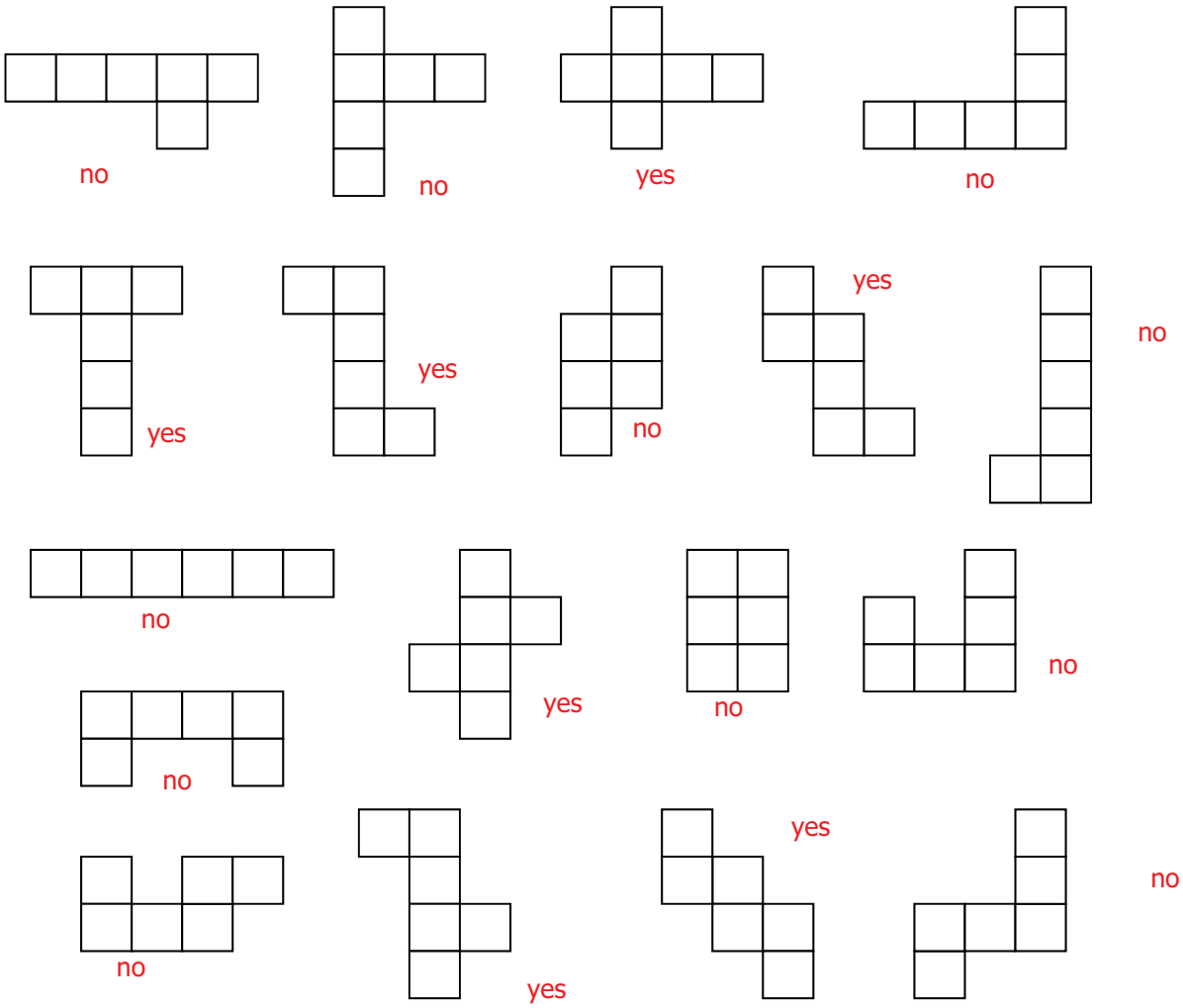
6. If you were going to add the following shape into your categories, where would it go? Would it be a pyramid, a prism, a cylinder or a cone?



prism

7. Is it possible to make the following? Give reasons for your answers.
   - A prism with a hexagon for a face? yes if it is the base
   - A pyramid with a hexagon for a face? yes if it is the base
   - A cube with a hexagon for a face? no

8. Examine the diagrams below and circle the nets that would fold to give a cube.

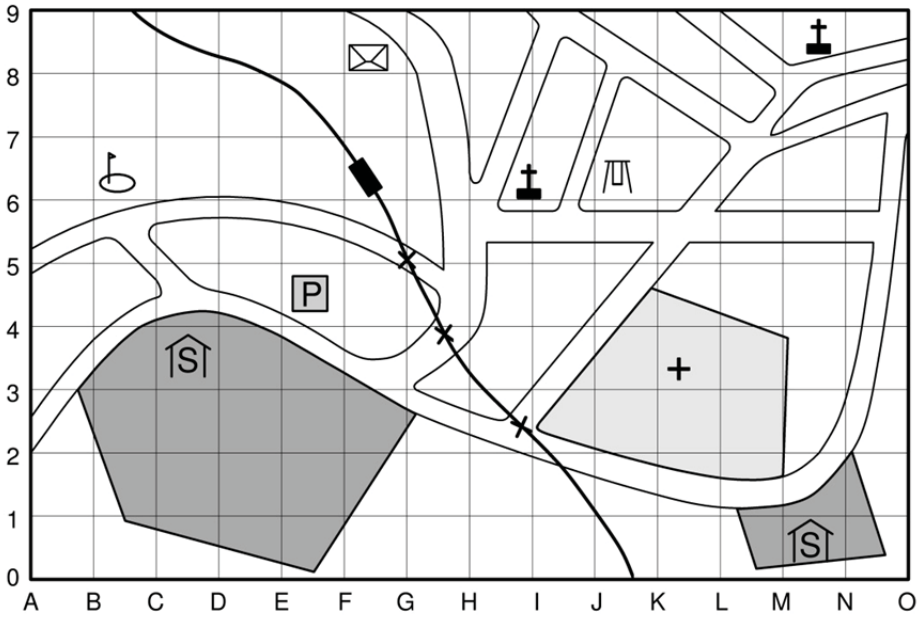


9. Design a shape from 4 cubes that has 18 squares on the outside. Draw it in your maths books.

4 cubes stuck in a line

Day 14: Maps and directions

1. Using the map below, describe the process of walking along the road from the School at M1 to the Golf course. Make sure that you refer to landmarks as well as the distance and direction.

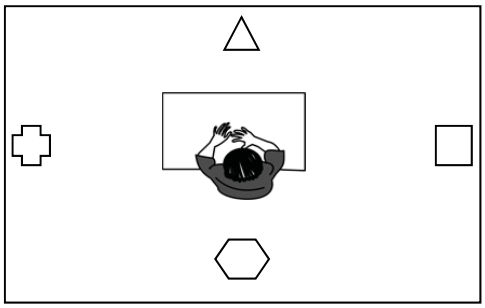


0 Scale 500m

KEY

School	Railway crossing	Post office
Church	Railway station	Hospital
Police	Golf course	Playground

2. Jemma is now sitting in the middle and facing the triangle. To get to that direction she started by turning a half turn, then a quarter turn clockwise, then another half turn. Which shape did she start off facing?



cross

3. If Jeanne starts by facing the West and turns a half-turn, and then a quarter-turn anticlockwise, and then another half-turn, which direction is she facing?

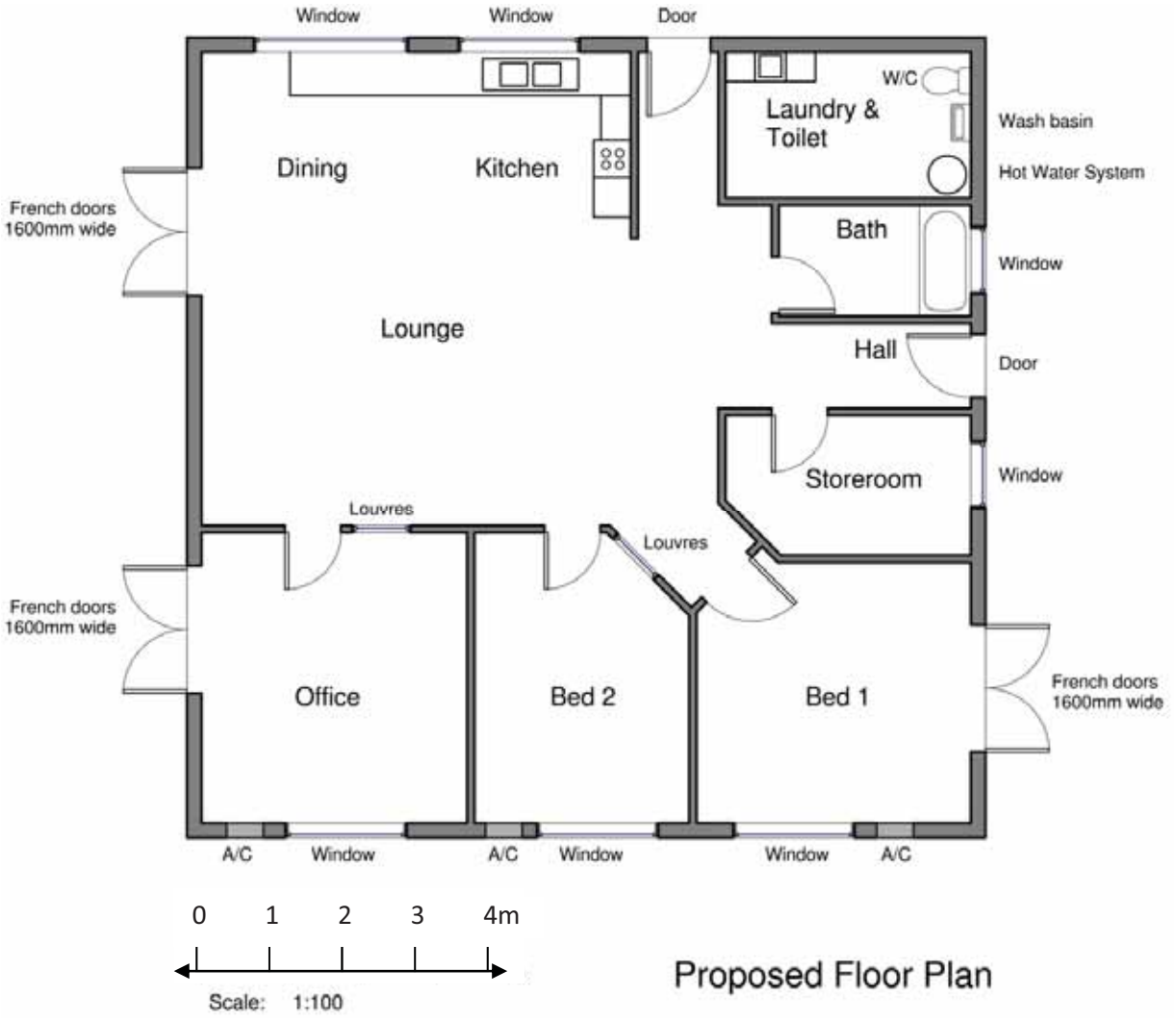
(west, east, north, south)

south

4. If I was facing North-East and I wanted to face South-West, how much should I turn?

half turn

5. Examine the plan below for a house, and answer the questions below.



1. How far is it from the external French doors in bedroom 1 to the kitchen (remember that you will need to turn some corners)?

2. What does a scale of 1:100 mean? 1 cm represents 100cm (1m)

3. Give the dimensions for bedroom 1 and bedroom 2 in millimetres:

4. Draw in the office 2 desks, each 1.2 x 0.8 metres.