



W.C. 13th July

Maths Answers

Monday

Fluent in 5

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $1.45 \times 3 = \mathbf{4.35}$ (M)
2. $7,894 - \mathbf{4,036} = 3,858$ (W)
3. $\frac{3}{4} \times 12 = \mathbf{9}$ (M)
4. $65 \times 23 = \mathbf{1,495}$ (W)
5. $6 + 3 \times 8 + 2 = \mathbf{32}$ (M)
6. $\frac{3}{5} - \frac{1}{10} = \frac{\mathbf{5}}{\mathbf{10}}$ or $\frac{\mathbf{1}}{\mathbf{2}}$ (M)

Mild, Medium & Spicy

Nets of 3D shapes



3D Shape Challenge **Answers**

Can you unscramble the names of the 3D shapes and match them to the correct shape net?

1. Cylinder

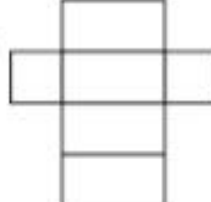
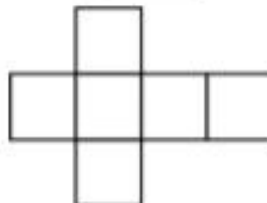
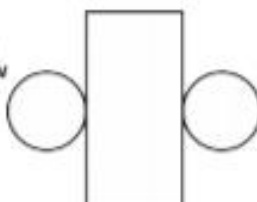
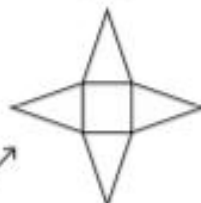
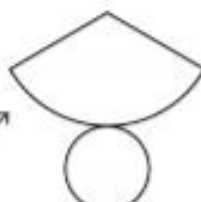
2. Cube

3. Cuboid

4. Cone

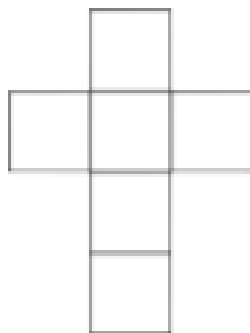
5. Pyramid

6. Prism

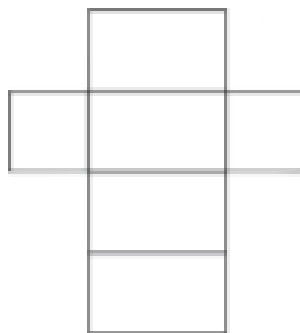


Match the Nets Answers

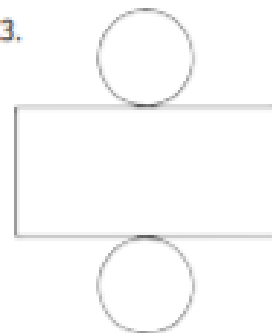
1.



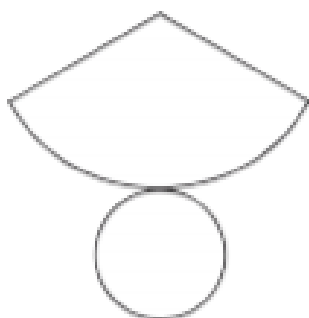
2.



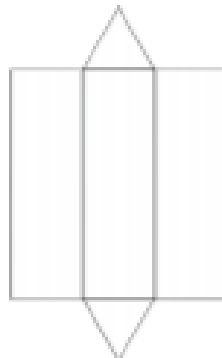
3.



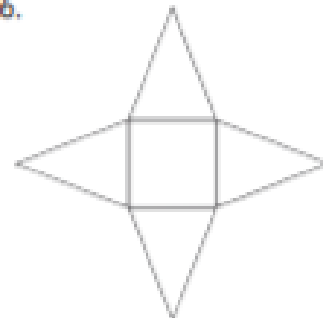
4.



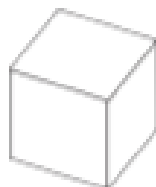
5.



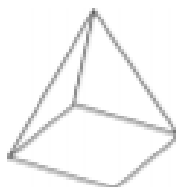
6.



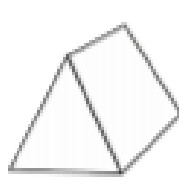
A



B



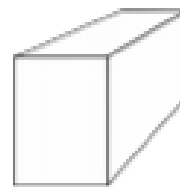
C



D



E

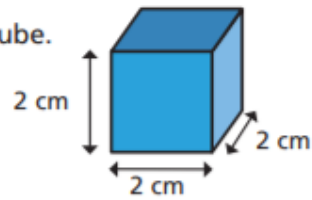


F

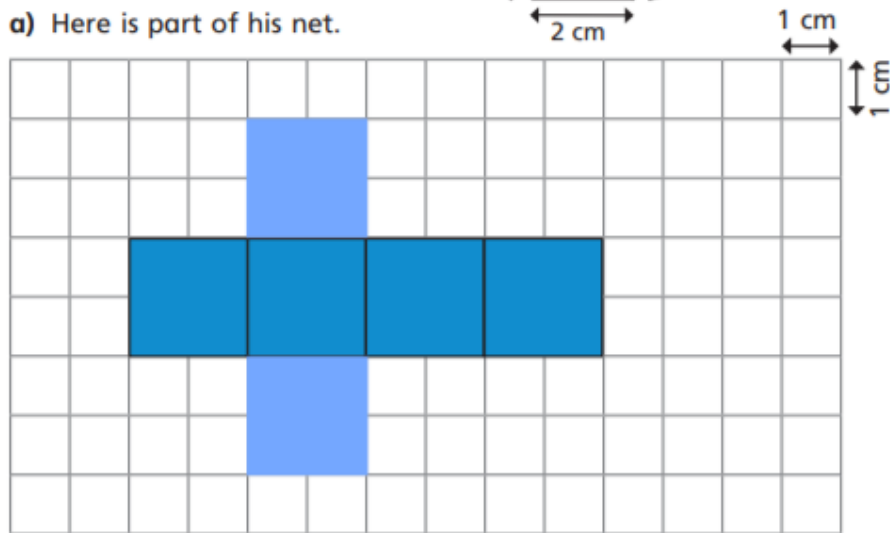


Net	Shape
1	a - cube
2	e - cuboid
3	d - cylinder
4	f - cone
5	c - triangular prism
6	b - square based pyramid

1 Ron is drawing the net of this cube.

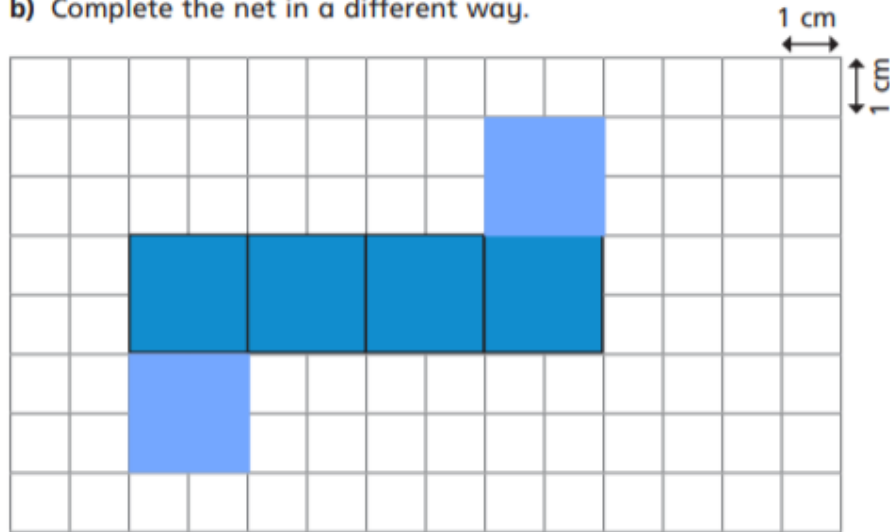


a) Here is part of his net.



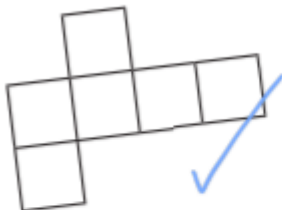
Complete the net.

b) Complete the net in a different way.

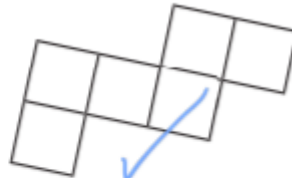


2 Tick the nets that will make a cube.

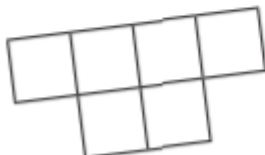
A



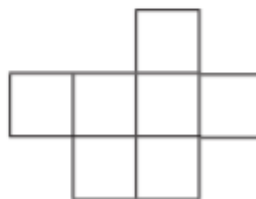
C



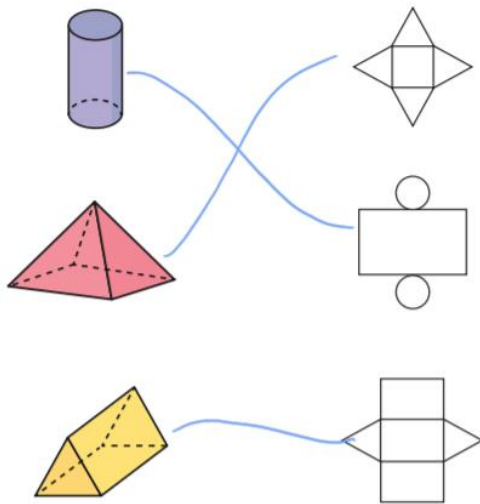
B



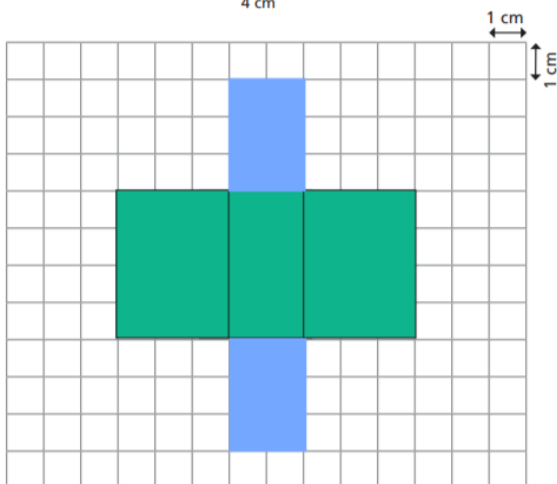
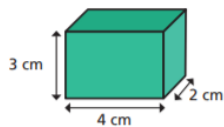
D



3 Match each net to its 3D shape.



4 Complete the net of the cuboid.

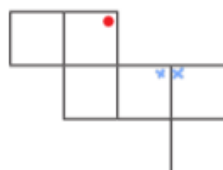


5 Here is the net of a cube.

The net is made into a cube.

Which two corners will meet the corner marked with ●?

Mark them with a cross.



True

Net C would make a cone. Nets A and B would not make a cone.

Tuesday

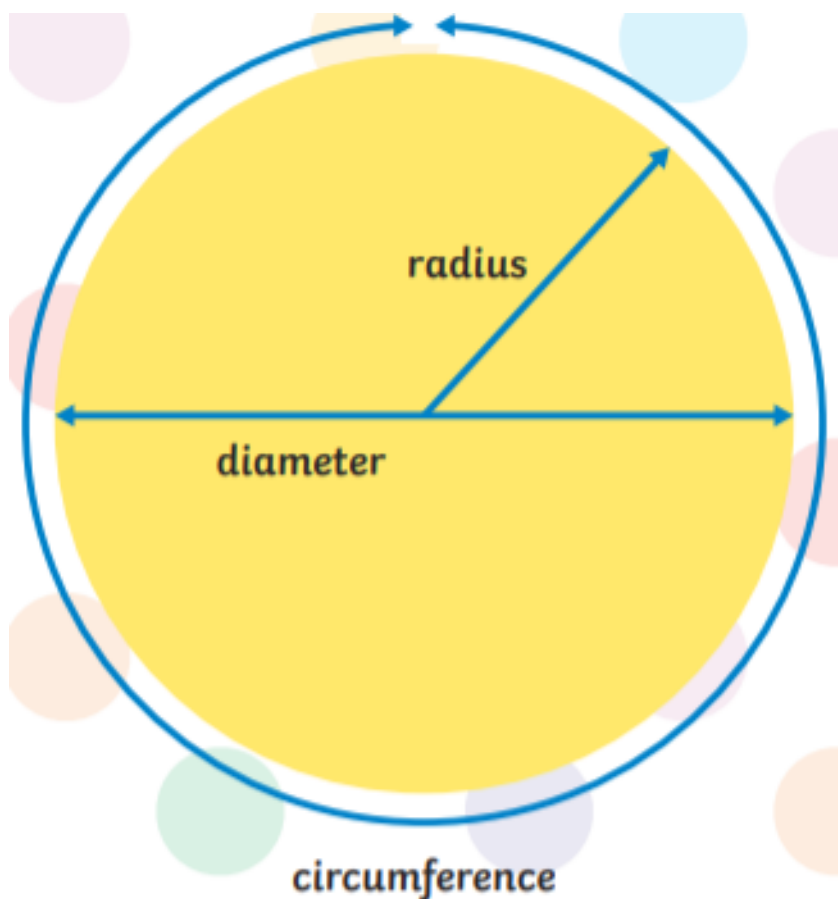
Fluent in 5

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $6 \times 80 = 480$ (M)
2. $6,218 \times 3 = 18,654$ (W)
3. $19 + 27 = 46$ (M)
4. $84 \times 3 = 252$ (M)
5. $981 + 34,894 = 35,875$ (W)
6. $183 \times 100 = 18,300$ (M)

Illustrate and name parts of circles and understand the relationship between the radius and diameter

Mild



The radius is **half** the length of the diameter.

The diameter is **twice** the length of the radius.

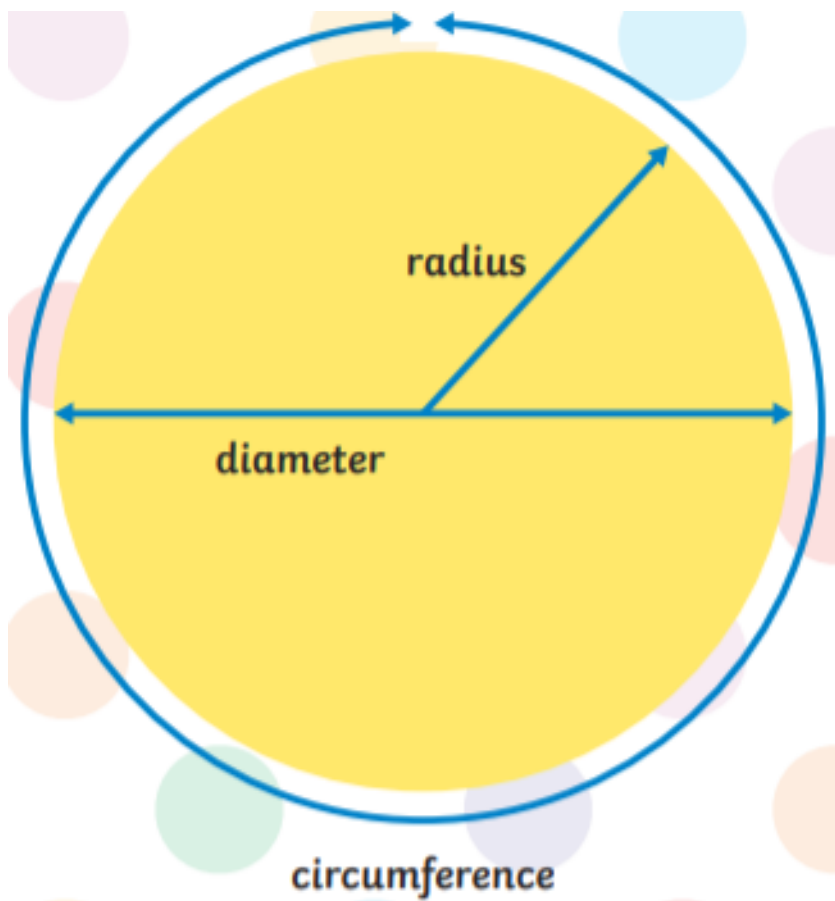
Radius	Diameter
4m	8m
32cm	64cm
54m	108m

Radius	Diameter
17cm	34cm
30mm	60mm
24m	48m

I agree with Alex because the diameter is always twice the length of the radius.

$$56 + 25 + 25 = 106\text{cm}$$

Medium



The radius is **half** the length of the diameter.

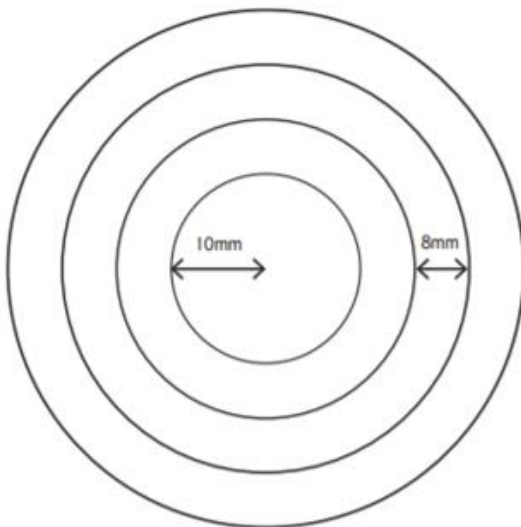
The diameter is **twice** the length of the radius.

Tommy has measured the diameter inaccurately because the diameter always goes through the centre of the circle from one point on the circumference to another.

Radius	Diameter
75m	150m
124mm	248mm
96cm	192cm
39m	78m

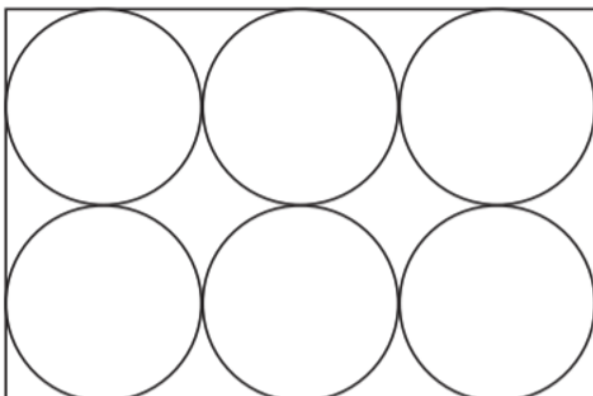
Radius	Diameter
44.5m	89m
51.5cm	103cm
32.5mm	65mm
43.5cm	87cm

Calculate the diameter of the largest circle:



Diameter = 6.8cm

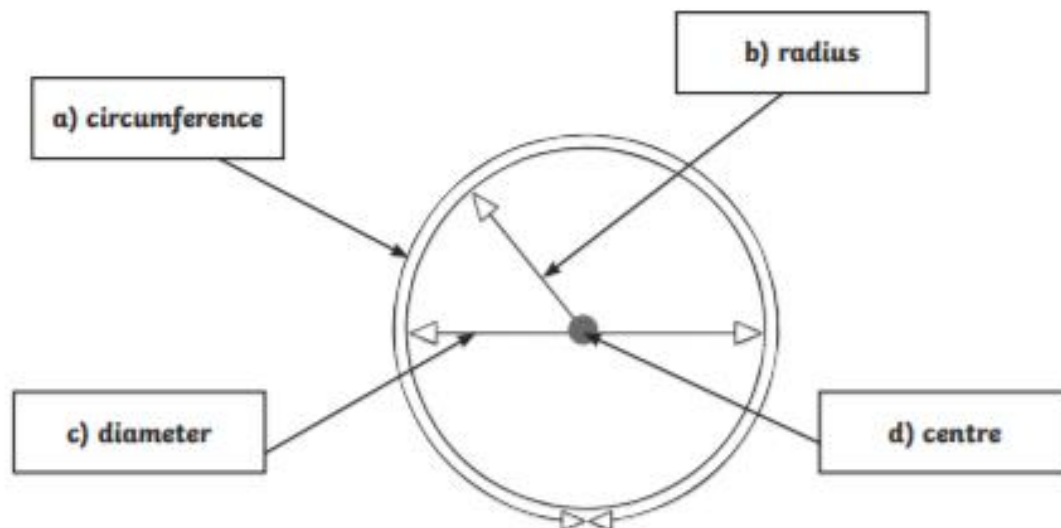
This design is made up of six circles, each with a radius of 14cm, inside a rectangle. Calculate the length and width of the rectangle.



Length = 84cm Width = 56cm

Spicy

1)



1b)

They are both incorrect. The diameter and radius should be measured using the centre of a circle. The diameter goes from one point on the circumference through the centre and straight across to the opposite point of the circumference. The radius goes from the centre of the circle to one point on the circumference.

2) twice
half

3)

	Radius	Diameter
A	6cm	12cm
B	4cm	8cm
C	8cm	16cm

4)

Radius	Diameter
5.5cm	11cm
6.5cm	13cm
3.75cm	7.5cm

r	D
236m	472m
409cm	818cm
42.8m	85.6m
425mm	85cm
56.2mm	11.24cm

r	D
284.5m	569m
21.9m	43.8m
21.53	43.06cm
243.1cm	4862mm
41.55cm	831mm

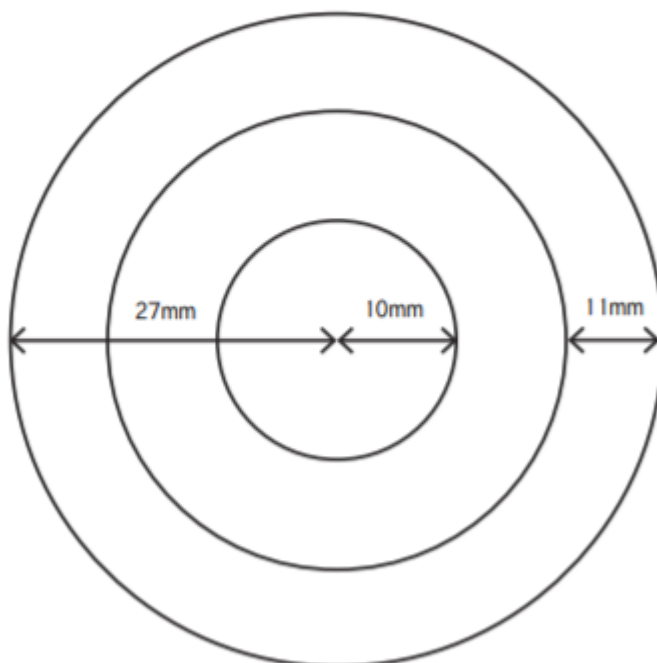
Each circle has a radius of 2.5cm.

The rectangle is 15cm in length and fits 3 circles in. $15\text{cm} \div 3 = 5\text{cm}$

The diameter of each circle is 5cm. The radius of a circle is half its diameter.

$5\text{cm} \div 2 = 2.5\text{cm}$

Calculate the diameter of the second circle:



Diameter = 3.2cm

Wednesday

Fluent in 5

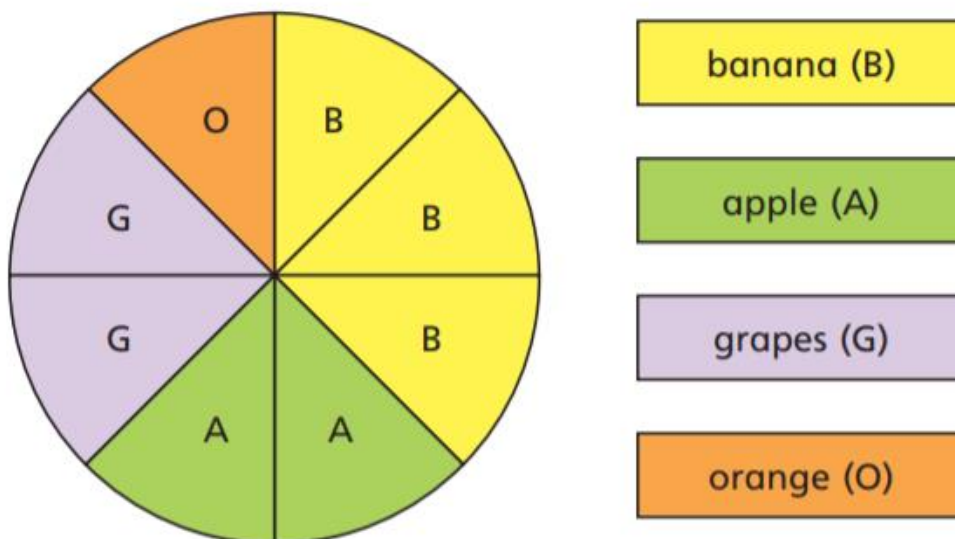
Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $562 \div 8 = \mathbf{70 \text{ r } 2}$ (W)
2. $569 \times 8 = \mathbf{4,552}$ (W)
3. $654 \div 100 = \mathbf{6.54}$ (M)
4. $87 - 29 = \mathbf{58}$ (M)
5. $55\% \text{ of } 120 = \mathbf{66}$ (M)
6. $98 + 165 = \mathbf{263}$ (M)

Interpret pie charts and use this to solve problems

Mild

- 1 The pie chart shows the favourite fruit of 48 children.



a) How many children chose banana?

18

b) How many children chose apple?

12

c) What fraction of the children chose orange?

$\frac{1}{8}$

d) What fraction of the children chose grapes?

$\frac{1}{4}$

$$4 \text{ people} = \frac{1}{4}$$

Yes, I agree. The segments for 'Afternoon' and 'Evening' are the same size, so must represent the same number of people.

Medium

A survey asked 1,200 people how many televisions they have in their home.

The results are shown in the pie chart.



a) How many people have two televisions in their home?

240 people

b) How many people have more than two televisions in their home?

720 people

c) What fraction of the people have fewer than three televisions in their homes?

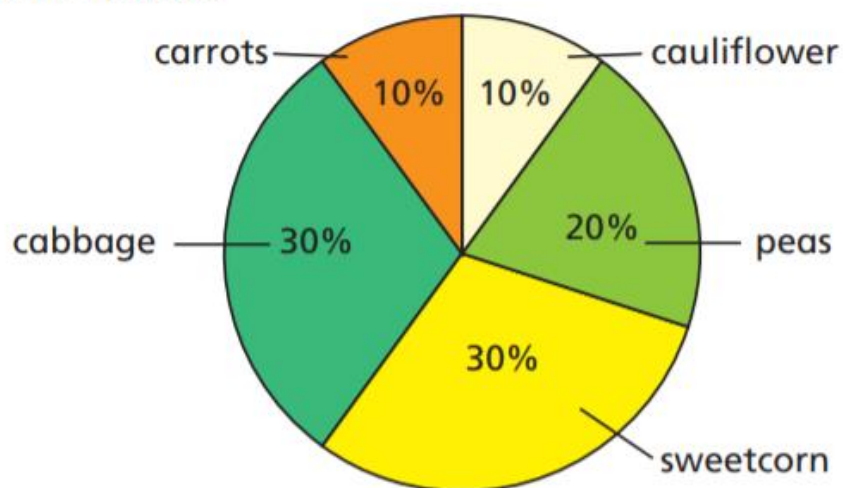
Give your answer in its simplest form.

$\frac{2}{5}$

$$5 \text{ people} = \frac{1}{6}$$

No, I do not agree. The labelled segments are one half and one quarter. The two unlabelled segments are each one eighth, so together must have the same total as the labelled quarter. By adding the values of each of the segments together Rosie can find the total number surveyed.

60 children were asked to choose their favourite vegetable from five options.



a) Work out the number of children who chose each vegetable.

carrots	6
peas	12
sweetcorn	18
cabbage	18
cauliflower	6

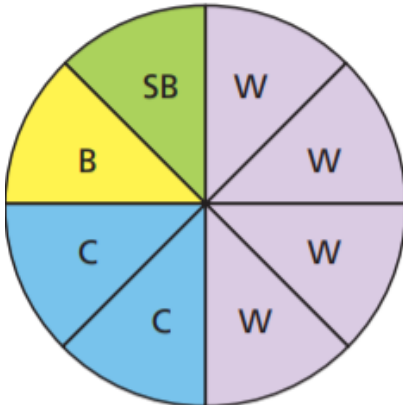
Spicy

Children from two schools were asked how they travel to school.

The results are shown in the pie charts.

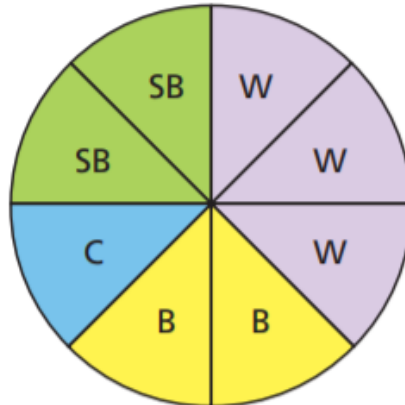
Hockton Primary:

160 children



Turleton Academy:

320 children



car (C)

bike (B)

school bus (SB)

walk (W)

a)



More children from Hockton Primary walk to school because more pieces show 'walk'.

Do you agree with Tommy? NO

Explain your answer.

There are more children at Turleton Academy, 120 walked whereas only 80 from Hockton did.

b) How many children from each school travel by car?

Hockton Primary

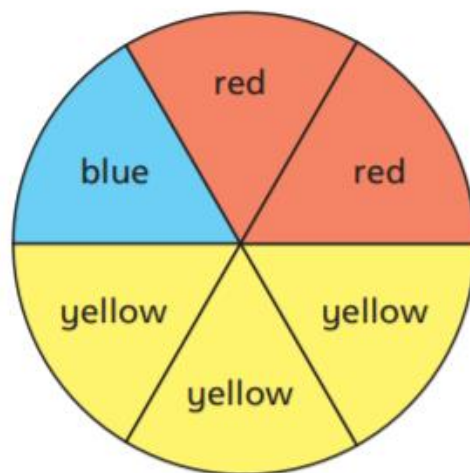
40

Turleton Academy

40

A bag contains red, yellow and blue counters.

The pie chart shows the proportion of counters of each colour.



- a) There are 30 red counters in the bag.

How many counters are in the bag in total?

90 counters

- b) What is the difference between the number of blue counters and the number of yellow counters?

30 counters

- c) Complete the sentences.

There are half as many blue counters

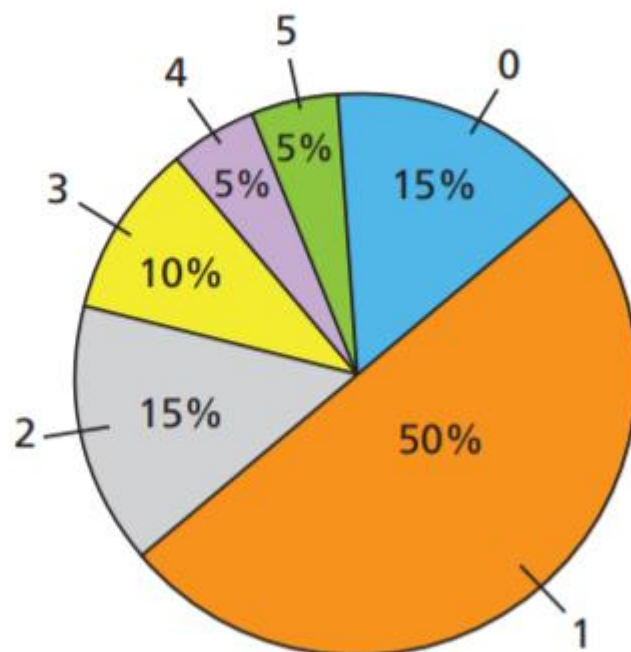
as red counters.

There are three times as many yellow counters

as blue counters.

160 people were asked how many siblings they have.

The results are shown in the pie chart.



Complete the table. Show each step of your workings.

Siblings	Frequency
0	24
1	80
2	24
3	16
4	8
5	8

Thursday

Fluent in 5

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $675 \div 6 = 112 \text{ r } 3$ or **112.5** or **$112 \frac{3}{6}$** (W)
2. $604 - 176 = 428$ (M)
3. $76.439 + 67.842 = 144.281$ (W)
4. $1.8 \div 0.2 = 9$ (M)
5. $654 + 230 = 884$ (M)
6. $560 \div 8 = 70$ (M)

Solve problems involving calculating the mean as an average

Mild

- 1 Scott has 2 counters. 
- Dani has 7 counters. 
- Kim has 3 counters. 

Share the counters evenly in order to find the mean number of counters.

The mean number of counters is

4

2

Find the mean of each set of numbers.

a)

3

2

7

4

4

4

b)

12

8

15

11

6

2

9

c)

5

2

2

9

7

5

6

5

3

7

5.1

False

True

7 sweets

9

Medium

True

False

51.5kg

40.1p

Huan collects football cards.

The table shows how many he collected over four years.

Year	Number of cards
2016	56
2017	104
2018	81
2019	103

Work out the mean number of cards collected per year.

86

a) The mean of four numbers is 9

What is the total of the four numbers?

36

b) Write an example of what the four numbers could be if none of them are 9

e.g.

1	2	16	17
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Spicy

£6.40

$$28 + 31 + 25 = 84, 84 \div 3 = 28$$

Yes. $159 \div 5 = 31.8$

The table shows how many pets a number of children have.
One value is missing.

Name	Number of pets
Brett	4
Nijah	0
Rosie	1
Teddy	2
Esther	
Tom	7

The mean number of pets is 3
How many pets does Esther have?

4

Six numbers are written on cards.

The mean of the numbers is 12

Fill in the two missing numbers if one is double the other.

13	11	4	16	6	22
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A basketball team played four games.

The mean number of points was 45

a) How many points did they score in total in the four games?

180

b) After the fifth game, the mean increased to 50

How many points did they score in the fifth game?

70

1.	14	18	5	11	with a mean of 12	
2.	2	20	7	20	with a mean of 12.25	
3.	5	7	5	6	7	with a mean of 6
4.	4	6	1	2	1	with a mean of 2.8
5.	1	17	12	21	6	with a mean of 11.4

Friday

Challenge of the Week

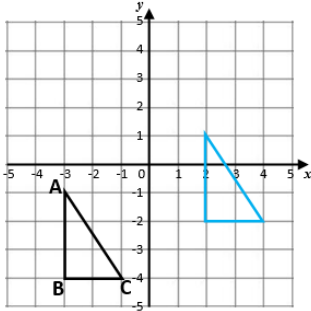
Key Skills

Mild

A: Place Value, Add and Subtract			B: Multiply, Divide and Fractions			C: Measure, Geometry and Statistics														
1. Write < or > to make this correct: 384,495 495,837	5:1	<	11. Circle all the factors of 36. 2 3 5 12 15	5:8	2,3,12	21. One glass holds 750 millilitres of lemonade. How much lemonade can 4 glasses hold? Give your answer in litres.	5:23	3 litres												
2. Write 520,102 in words.	5:1	Five hundred and twenty thousand, one hundred and two.	12. How many factors does a prime number have?	5:9	2	22. What shape is this a net of?	5:24	Square based pyramid												
3. Round 247,599 to the nearest ten .	5:2	247,600	13. 3,384 x 11	5:10	37,224	23. Translate the shape:	5:28	Shape drawn												
4. What is the missing number? 1,837 1,847 1,867	5:2	1,857	14. 29,350 ÷ 1000	5:11	29.35(0)	3 units left and 2 units up.														
5. The temperature was -9°C then increased by 17°C. What is it now?	5:3	8°C	15. Circle all of the square numbers . 2 9 12 16 20	5:12	9, 16															
6. What number is represented by these Roman Numerals? CML	5:4	950	16. $\frac{7}{15} - \frac{2}{5} =$	5:13	$\frac{1}{15}$															
7. 28,629 + 13,535 =	5:5	42,164	17. Find an equivalent fraction of $\frac{1}{3}$.	5:14	$\frac{2}{6}$	24. Look at this bus timetable:	5:30	10:15												
8. 110,250 - 12,890 =	5:5	97,360	18. Write $\frac{14}{4}$ as a mixed number .	5:15	$3\frac{2}{4}$	<table><tr><td>Newfield</td><td>9:05</td><td>9:35</td><td>10:05</td></tr><tr><td>Swanby</td><td>9:31</td><td>10:01</td><td>10:31</td></tr><tr><td>Oldtown</td><td>9:45</td><td>10:15</td><td>10:45</td></tr></table>	Newfield	9:05	9:35	10:05	Swanby	9:31	10:01	10:31	Oldtown	9:45	10:15	10:45		
Newfield	9:05	9:35	10:05																	
Swanby	9:31	10:01	10:31																	
Oldtown	9:45	10:15	10:45																	
9. Complete this sum without written working. 20,600 + 5,400 =	5:6	26,000	19. $2\frac{1}{3} \times 6 =$	5:16	14	What time does the 9:35 bus from Newfield stop at <u>Oldtown</u> ?														
10. DVDs are £11.35 each. If I buy 2, how much change do I get from £30?	5:7	£7.30	20. Round 9.54 to 1 decimal place.	5:17	9.5	25. I get to the bus stop in <u>Swanby</u> at 10:05. How long do I have to wait until the next bus?	5:30	26 mins												
Total (A)			Total (B)			Total (C)														
Test Total (A+B+C)			R (0-9)		Y (10-19)		G (20-25)													

Key Skills

Medium and Spicy

A: Place Value, Add, Subtract, Multiply and Divide		B: Fractions, Ratio, Proportion and Algebra		C: Measure, Position and Direction	
1. Write in words: 2,034,601	^{6:1} Two million, thirty four thousand, six hundred and one.	11. Simplify this fraction fully: $\frac{18}{54}$	^{6:7} $\frac{1}{3}$	21. 400ml of water are poured out of a 2.25 litre bottle. How much is left?	^{6:18/19} 1.85l or 1,850ml
2. What is the value of the 3 in this number? 1,384,721	^{6:1} 300,000	12. $1\frac{2}{3} - \frac{3}{4} =$	^{6:8} $\frac{11}{12}$	22. How many hours are there in three days?	^{6:19} 72
3. Round 7.186 to the nearest whole number.	^{6:1} 7	13. $\frac{1}{3} \div 3 =$	^{6:9} $\frac{1}{9}$	23. These rectangles have the same area . Find the missing side length.	^{6:20} 3
4. The temperature drops from 1°C to -11°C. What is the difference?	^{6:2} 12°C	14. What is the value of the 8 in this number: 25.738	^{6:10} $\frac{8}{1000}$		
5. $2,140 \times 32$	^{6:3} 68,480	15. Give your answer as a decimal: $26 \div 8$	^{6:11} 3.25	24. What are the co-ordinates of A ?	^{6:27}
6. $7,242 \div 17$	^{6:3} 426	16. Write this fraction as a decimal and a percentage . $\left(\frac{1}{2}\right)$	^{6:12} 0.5, 50%		(-3,-1)
7. 15 and 27 only have two common factors . What are they?	^{6:4} 1 and 3	17. Find 75% of 520.	^{6:13} 390		
8. The number 30 has three prime factors . What are they?	^{6:4} 2, 3, and 5	18. The ratio of cats to dogs 3:2. If there are 15 cats, how many dogs?	^{6:14} 10		
9. $(25 + 13) \div 2$	^{6:5} 19	19. I have m pence. I spend 17p. Write an expression for this.	^{6:15} m - 17		
10. How many 52-seater buses does a school need for 198 pupils and staff?	^{6:6} 4	20. Write a possible value for a and b . $2 \times a + b = 17$	^{6:17} Any 2 that work	25. Translate triangle ABC 5 units right and 2 units up.	^{6:28}
Total (A)		Total (B)		Total (C)	
Test Total (A+B+C)		R (0-9)		Y (10-19)	G (20-25)