

10-for-10

Holiday Challenge: Mathematics '10 Challenges for 10 Days'

This booklet is designed to keep your brains 'ticking over' during the termly break. Just a few short activities will mean that you return ready to learn and raring to go!

Try to really impress your teacher by completing the challenges for each of the 10 days.

Circle any questions that you'd like some more help with when term starts again.

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Day 1

Arithmetic Questions

1 $102 + 4,000 =$

$102 + 4,000 =$																			

1 mark

2 $5.6 \times 10 =$

$5.6 \times 10 =$																			

1 mark

3 $8 - 20 =$

$8 - 20 =$																			

1 mark

4 $456 \times 8 =$

$456 \times 8 =$																			

1 mark

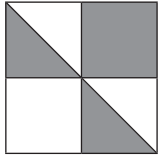
5 $360 \div 6 =$

$360 \div 6 =$																			

1 mark

6

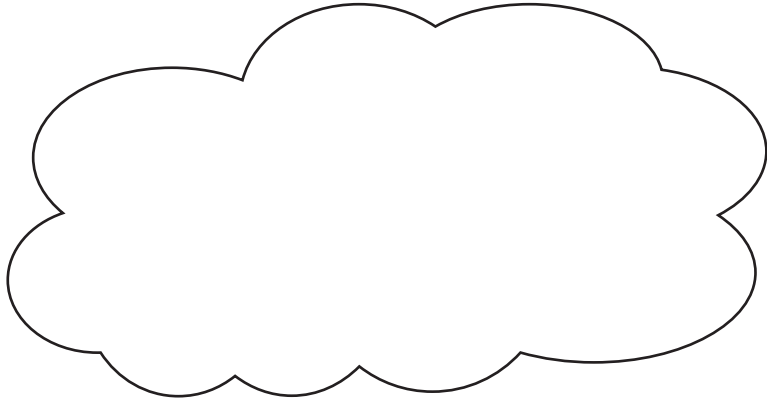
The diagram below is made of squares and triangles. What fraction of the diagram is shaded?



_____ 1 mark

7

Kim says, '20,001 cannot be a multiple of 4'. Explain why she is correct.



_____ 1 mark

8

Jack ran the 100m in 15.4 seconds. Sima ran it two seconds faster. What time did Sima record for her run?

_____ 1 mark

9

Circle all the fractions which are equivalent to $\frac{3}{4}$.

$\frac{6}{8}$

$\frac{5}{6}$

$\frac{12}{16}$

$\frac{18}{24}$

$\frac{7}{11}$

_____ 1 mark

10

Write these numbers in **ascending order**.

0.4

0.48

0.39

0.048

0.41

_____ 1 mark

6

The value of the number in each circle is the same.
What is the value of a circle?

$$\bigcirc + \bigcirc + \bigcirc = 270$$

7

Complete the table below.

	Rounded to the nearest 10	Rounded to the nearest 100
85.6		
123.45		
399.98		

8

Write a number in the box to make the statement true.

$$(\square \div 7) - 8 = -1$$

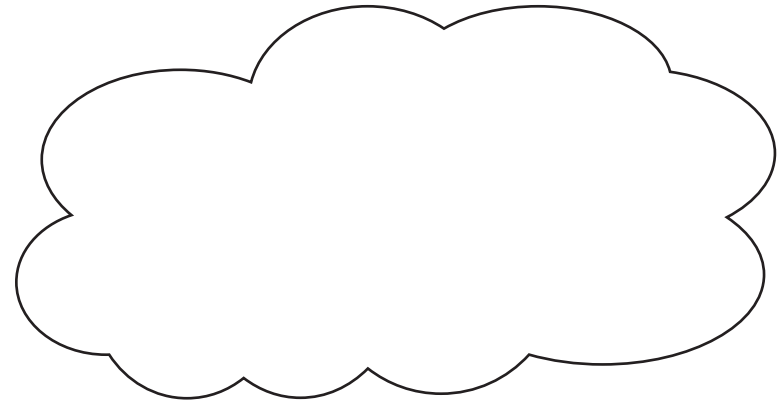
1 mark

9

Mitul says that 0.4 is the same as $\frac{2}{5}$. Is he correct?

1 mark

Yes / No Explain how you know.

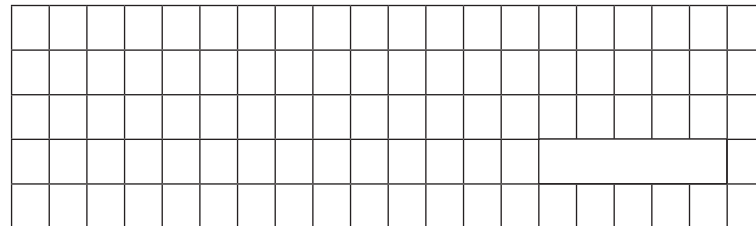


1 mark

1 mark

10

For their Y6 picnic, Class 6H have worked out that they need 24 loaves of bread to make sandwiches. If each loaf is 95p, what is the cost of the bread altogether? Show your working.



1 mark

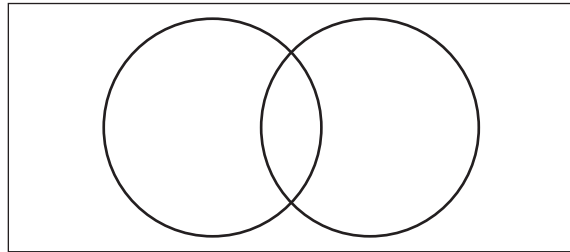
1 mark

6

Write the following numbers in the correct place on this Venn diagram.

240 44 35 42 400

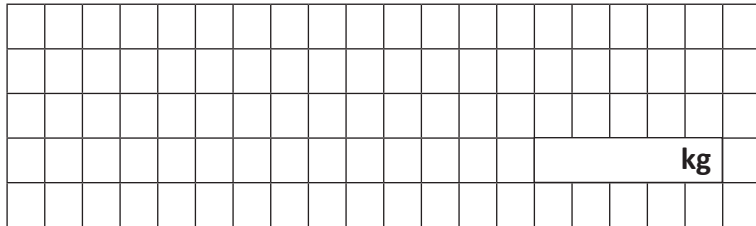
Multiples of 3 Multiples of 4



 1 mark

7

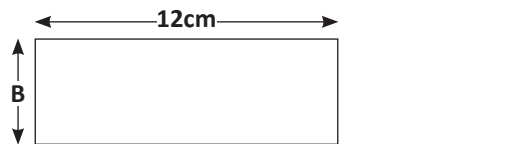
Mr. Smith bought a bag of 5 apples which weighed 585g in total. The bag weighed 5g. What is the weight of one apple? **Give your answer in kg.**



 1 mark

8

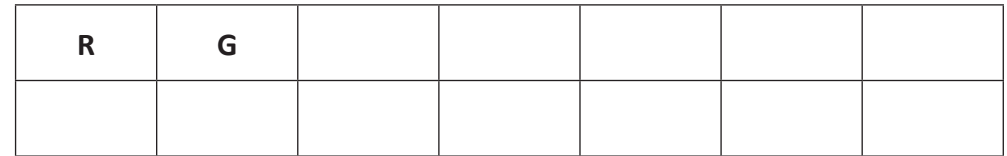
The rectangle below has a perimeter of 50cm. Find the missing distance labelled 'B'.



 1 mark

9

Label (or colour) the diagram below so that the ratio of red (R) to green (G) is 5:2. Two have been completed for you.



 1 mark

 1 mark

10

I think of a number. I halve it and add 2. I then multiply it by 3. My answer is 48. What is my number?

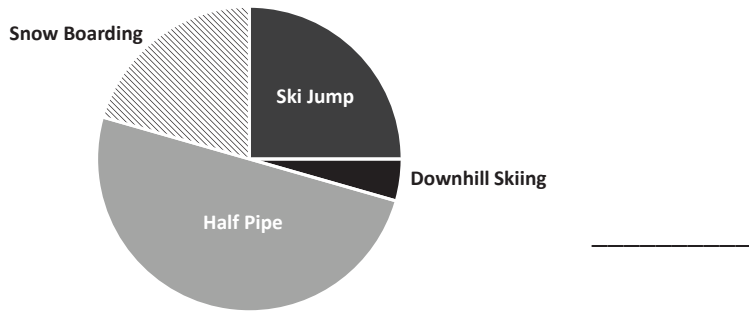
 1 mark

 1 mark

6

The pie chart below shows the favourite events at the Winter Olympics. Use the information to estimate the percentage of people who liked snowboarding the most.

Favourite events at the Winter Olympics



1 mark

7

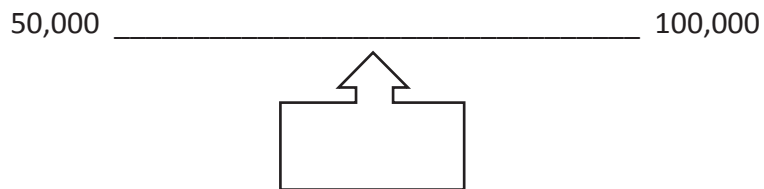
Circle the number that is 100 times greater than 5.6

- 0.56 56 5,600 560 5,006

1 mark

8

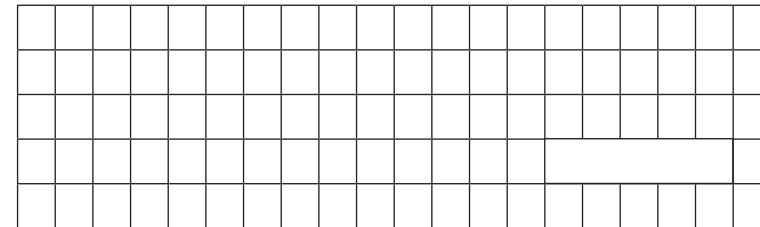
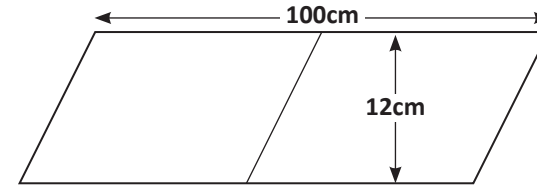
Estimate the number shown by the arrow.



1 mark

9

A floor is covered in tiles in the shape of identical parallelograms. Calculate the area of **one parallelogram** from the information below. Show your working.



1 mark

10

In the ski jumping event in the Winter Olympics, five athletes jumped the following distances. Calculate the **mean** of their distances.

- 147.2 m 145m 0.14km 137.8m 145m

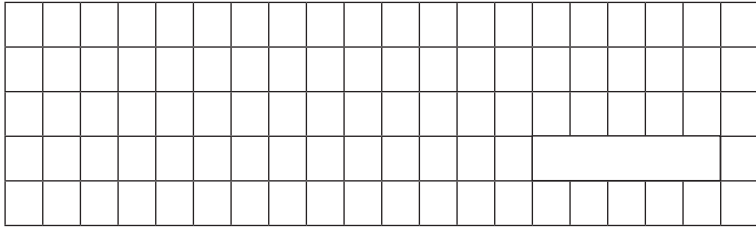
m

1 mark

1 mark

6

A shop has a 20% discount sale. A pair of trainers are usually £36. How much would they be in the sale? Show your working.

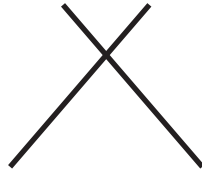


1 mark

7

The diagonals of two shapes are drawn below. Write down the name of each shape in the space next to it.

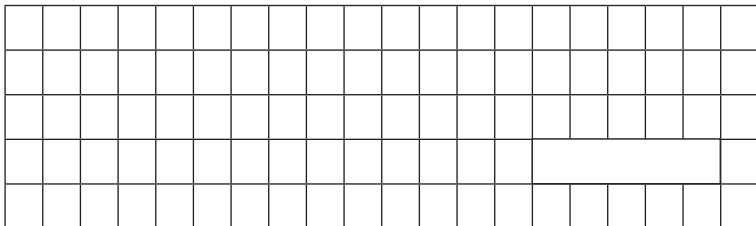




1 mark

8

A roll of sandwich bags is 450cm long. Each bag is 15cm long. How many bags are there in a roll? Show your working.



1 mark

9

Circle all the numbers that are multiples of 9.

118 18 89 540 81

1 mark

10

Draw a line from the shaded box to the correct pair of numbers which make this statement true.

$3t + y = 5$

$t = 1, y = 4$

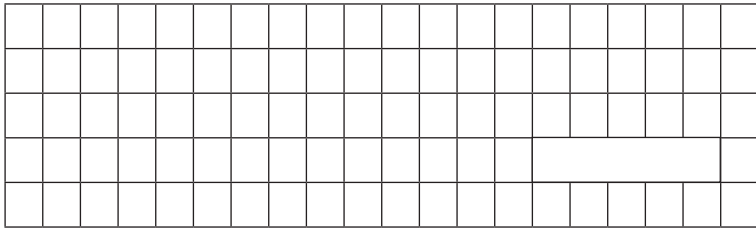
$t = 1, y = 2$

$t = 2, y = 3$

1 mark

6

There were 112 roller skaters on a rink. 60 dropped out but a further 26 joined. How many roller skaters are there now? Show your working.



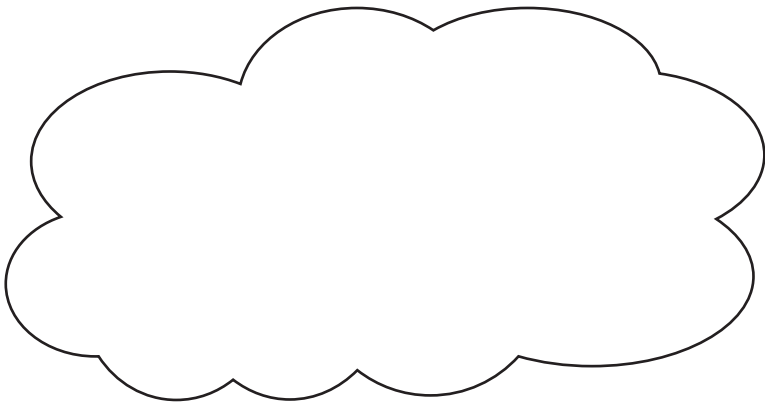
7

Complete the sequence of numbers.

9 16 25 36 _____

Leroy says that 146 will be in the sequence. Is he correct?

Yes / No Explain how you know.



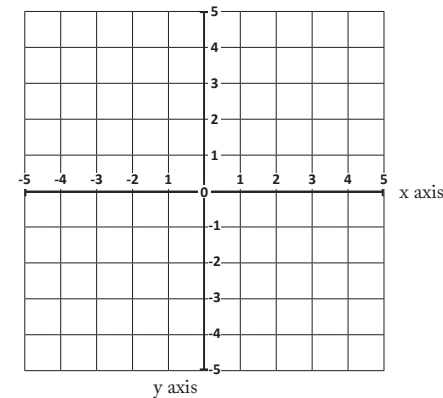
 1 mark

 1 mark

 1 mark

8

Two of the vertices of an isosceles triangle have these coordinates: (1, 3) (3, 3). Plot the points then plot a third vertex to complete the shape. **Write down the coordinates of your third vertex.**



 1 mark

 1 mark

9

Circle all the numbers that are **common multiples** of 4 and 6.

240 30 120 16 48

 1 mark

10

Write one number in each box to make the number sentence true.

$$\frac{\boxed{}}{12} = \frac{1}{3} = \frac{3}{\boxed{}}$$

 1 mark

 1 mark

6

Complete the bus timetable below.

Route	Departure Time	Arrival Time	Duration of Journey
Dibden - Sutton	0945		55 Minutes
Tulling - Fripton	1115	1340	
Sibsey - Monkton		1545	1hr 15 Minutes

1 mark

7

A shop has 270 pairs of jeans displayed on shelves. Each shelf holds 18 pairs of jeans. How many shelves are needed? Show your working.

1 mark

8

Circle all the **common multiples** of 5 and 6.

30 55 120 90 66

1 mark

9

$\frac{2}{6}$ of the 360 children in a school come by car. $\frac{2}{6}$ cycle to school.

How many of the children travel to school in other ways?

Show your working.

1 mark

10

Insert a pair of brackets to make this statement true.

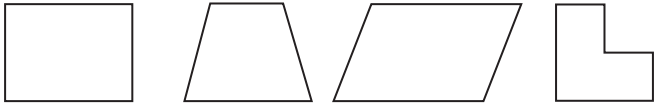
$$15 + 9 \times 8 = 87$$

1 mark

1 mark

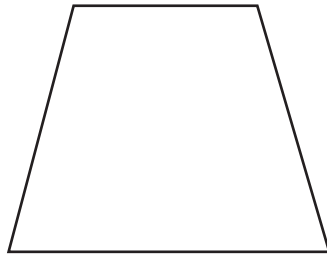
6

Tick inside the shapes which have **exactly one line of symmetry**.



7

Draw **1 perpendicular line** inside this shape to create a trapezium and a triangle.



8

Insert one of these symbols into each box to make the statements true. < > =

$$\frac{5}{6} \quad \square \quad \frac{10}{12}$$

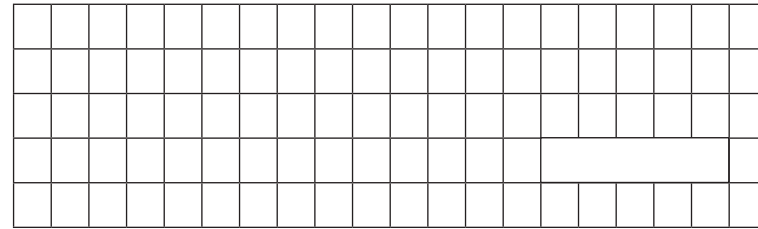
$$75\% \quad \square \quad 0.6$$

$$5\% \quad \square \quad 0.05$$

9

1 mark

Amina posts four large letters. The postage costs the same for each letter. She pays with a £20 note. Her change is £16.60. What is the cost of posting one letter? Show your working.



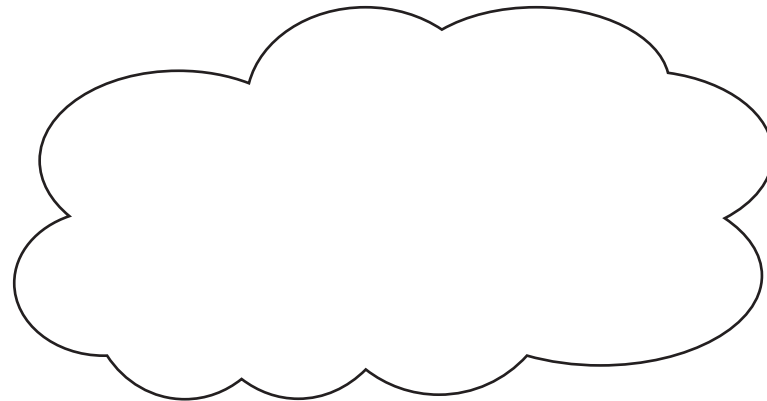
1 mark

10

1 mark

James says 0.20 is equivalent to $\frac{1}{20}$.

Is he correct? **Yes / No** Explain how you know.



1 mark

1 mark