

# '6 for 6'

## Mathematics Challenge

This booklet is designed to keep your brains 'ticking over' during the long summer break. Just a few short activities will mean that you return to Year 6 ready to learn and raring to go!

Try to really impress your teacher by completing the arithmetic and problem-solving questions for each week of the holidays.

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

## Answers

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## Summer Revision



1

Which number equals

8 ones + 9 tens + 3 hundreds + 20 thousands?

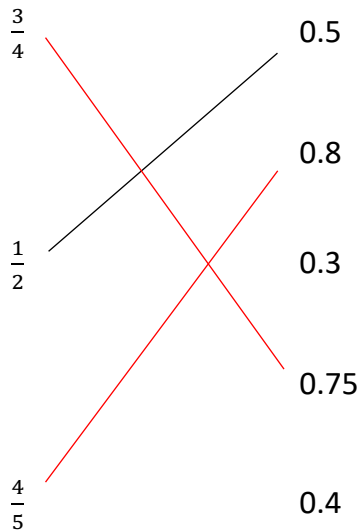
- A 8,397
- B 20,398
- C 89,320
- D 2,398

**B**

1 mark

2

Draw a line to match each box to the number which has the same value. One has been done for you.



1 mark

3

Write in the missing numbers

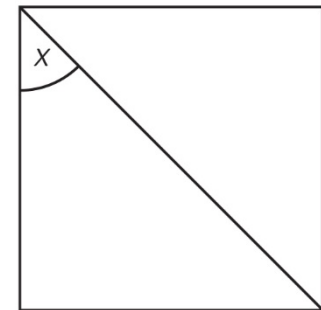
$$6 \times 80 = \boxed{480}$$

$$4 \times \boxed{75} = 300$$

1 mark

4

The diagram shows a square. How many degrees is angle x?



**45°**

1 mark

1

$3 \times 2 \times 5 =$

30

1 mark

2

$\frac{2}{3} + \frac{1}{2} =$

$\frac{7}{6}$  OR  $1\frac{1}{6}$

1 mark

3

$\underline{\hspace{2cm}} = -9 + 5$

-4

1 mark

4

$4^2 - 2^2 =$

12

1 mark

5

$978 \div 10 =$

97.8

1 mark

1

Ben buys 3 packets of raisins.  
He pays with a £5 note and gets 41p change.  
How much does one packet of raisins cost?

**£1.53**

\_\_\_\_\_  
1 mark

2

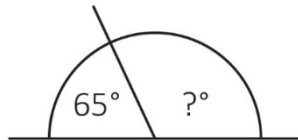
Write these numbers in **ascending** order.

$\frac{3}{4}$	$\frac{3}{2}$	$\frac{1}{8}$	$\frac{3}{16}$
<b><math>\frac{1}{8}</math></b>	<b><math>\frac{3}{16}</math></b>	<b><math>\frac{3}{4}</math></b>	<b><math>\frac{3}{2}</math></b>

\_\_\_\_\_  
1 mark

3

**Calculate** the size of the unknown angle.  
*Not drawn to scale.*

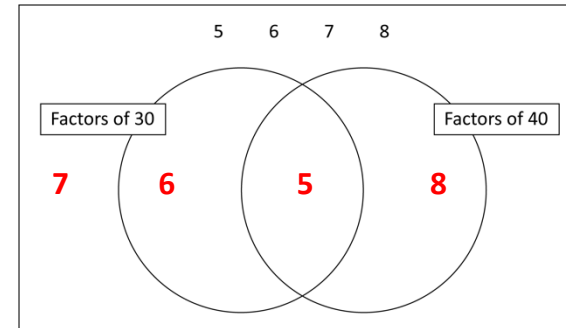


**115°**

\_\_\_\_\_  
1 mark

4

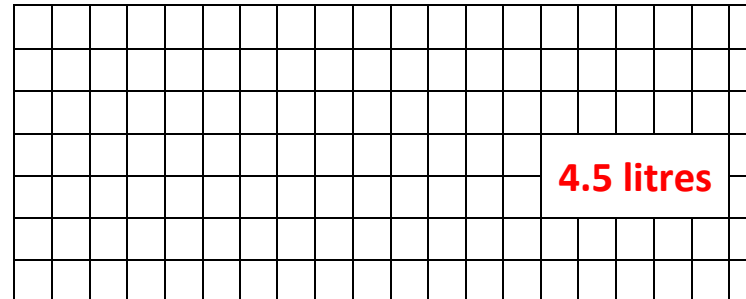
Write these numbers in the correct places on the diagram.



\_\_\_\_\_  
1 mark

5

Supermarkets sell bottles of spring water in packs of 6 and bottles of lemon squash in packs of 10. A bottle of spring water holds 500ml. A bottle of lemon squash holds 750ml. What is the difference in litres between one pack of spring water and one pack of lemon squash?



\_\_\_\_\_  
2 marks

1

$$4,500 + \underline{\hspace{2cm}} = 6,250$$

1,750

1 mark

2

$$3,855 \div 3 = \underline{\hspace{2cm}}$$

1,285

1 mark

3

$$\frac{5}{9} - \frac{1}{3} = \underline{\hspace{2cm}}$$

$\frac{2}{9}$

1 mark

4

$$342 \times 16 = \underline{\hspace{2cm}}$$

5,472

1 mark

5

$$\underline{\hspace{2cm}} = 86,749 + 3,765$$

90,514

1 mark

1

Six people can sit at each table.  
How many tables are needed for 175 people?

30

1 mark

2

A roller skate factory plans to make 1,700 pairs of roller skates in the first quarter of the year. It made 548 pairs of roller skates in January and 456 pairs of roller skates in February. How many pairs of roller skates does it need to make in March?

696

1 mark

3

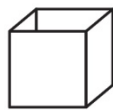
Approximately  $\frac{8}{12}$  of the Earth's surface is made up of the oceans.  
What fraction of the surface **is not** made up of oceans?

$\frac{4}{12}$  or  $\frac{1}{3}$

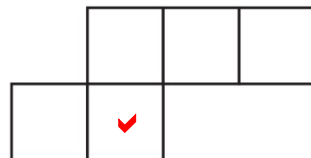
1 mark

4

Here is an open top cube.



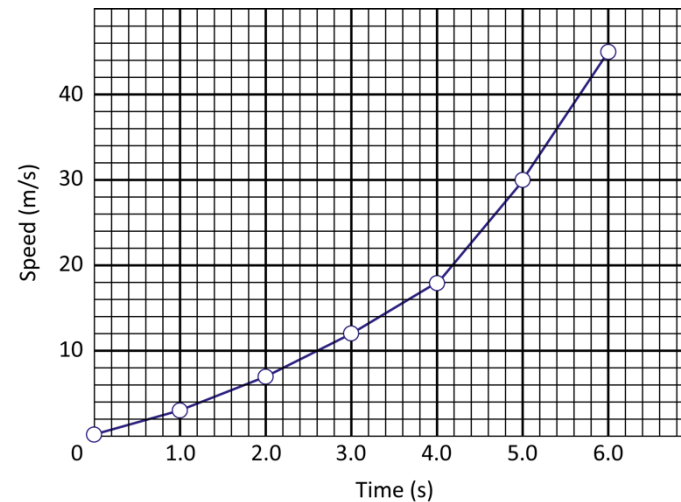
Here is the net from which it is made.  
Put a tick (✓) on the square which is its base.



1 mark

5

Graph showing the speed of a remote-controlled car over a 6-second period.



a) What speed was the remote-controlled car going 4 seconds?

18m/s

1 mark

b) Estimate how long it took the car to reach 15m/sec.

$3\frac{1}{2}$  seconds (approximately)

1 mark

# Week 4

## Arithmetic Questions

1

$$8,700 - 450 = \underline{\hspace{2cm}}$$

8,250

1 mark

2

$$480 \div 60 = \underline{\hspace{2cm}}$$

8

1 mark

3

$$\underline{\hspace{2cm}} = \frac{2}{3} \times 5$$

$\frac{10}{3}$  or  $3\frac{1}{3}$

1 mark

4

$$23 \times 2 = 127 - \underline{\hspace{2cm}}$$

81

1 mark

5

$$400,000 - 5,000 = \underline{\hspace{2cm}}$$

395,000

1 mark



1

The coldest temperature recorded in London in December is  $-9^{\circ}\text{C}$ . In London the highest recorded temperature in August is  $38^{\circ}\text{C}$ . How much warmer is the hottest recorded temperature than the lowest?

**$47^{\circ}$**

\_\_\_\_\_   
 1 mark

2

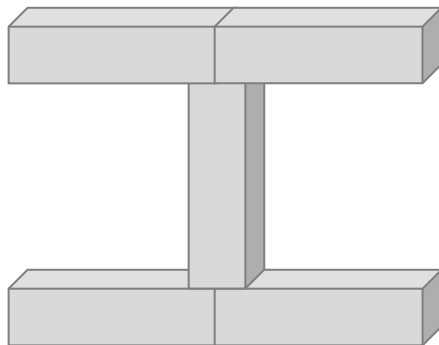
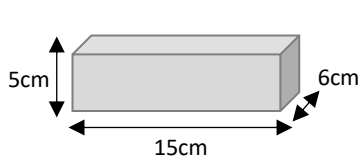
A postman has delivered  $\frac{1}{2}$  of her letters. She delivers a further  $\frac{2}{5}$ . What fraction of her letters has she delivered?

**$\frac{9}{10}$**

\_\_\_\_\_   
 1 mark

3

Kate is creating a structure with bricks. The bricks are 15cm long, 5cm high and 6cm deep.



She builds this structure. How tall is it?

**25cm**

\_\_\_\_\_   
 1 mark

4

Complete the table below by rounding each decimal to the nearest whole number.

Decimal number	Rounded to the nearest whole number
3.14	<b>3</b>
4.67	<b>5</b>
5.29	<b>5</b>
2.51	<b>3</b>

\_\_\_\_\_   
 1 mark

5

It takes Scott 264 seconds to swim 4 lengths of the swimming pool. Scott swam the first two lengths in 2 minutes and 16 seconds.

How long in minutes and seconds did it take him to swim the last 2 lengths?

**2 minutes 8 seconds**

\_\_\_\_\_   
 1 mark



1

Bailey scored 6/20 on his spelling test. Alice scored 55% in her spelling test. Bailey said, "I got the highest score." Is Bailey correct? Circle yes or no.

YES / **NO** Explain how you know.

$\frac{6}{20}$  is the same as  $\frac{30}{100}$ , which is the same as 30%.  
Alice scored 55%, which is higher than 30%, so  
Bailey did not get the highest score.

1 mark

2

Here is a recipe for a cereal bar.

125ml honey  
125g butter  
250g oats  
100g raisins

Josh makes some cereal bars using 375g of butter. What weight of oats should he use?

**750g**

1 mark

3

Round the 5-digit numbers in the table below to the nearest 10.

Number	Rounded to the nearest 10
25,824	<b>25,820</b>
41,995	<b>42,000</b>
83,482	<b>83,480</b>
68,299	<b>68,300</b>

1 mark

4

List the first 10 prime numbers.

**2, 3, 5, 7, 11, 13, 17, 19, 23, 29**

1 mark

5

A rectangle has a length measuring 42cm. The width of the rectangle is half the size of the length. Calculate the perimeter and area of the rectangle.

P = **126** cm    A = **882** cm<sup>2</sup>

1 mark

# Week 6

## Arithmetic Questions

1

$$3,758 + \underline{\hspace{2cm}} = 13,456$$

9,698

1 mark

2

$$\underline{\hspace{2cm}} = 40 \times 60$$

2,400

1 mark

3

$$4,857 \div 5 = \underline{\hspace{2cm}}$$

971<sup>r2</sup>

1 mark

4

$$2 \frac{1}{5} - \frac{3}{5} = \underline{\hspace{2cm}}$$

$\frac{8}{5}$  or  $1 \frac{3}{5}$

1 mark

5

$$275 \div \underline{\hspace{2cm}} = 2.75$$

100

1 mark

1

What number is exactly halfway between 212,900 and 213,500?

**213,200**

1 mark

2

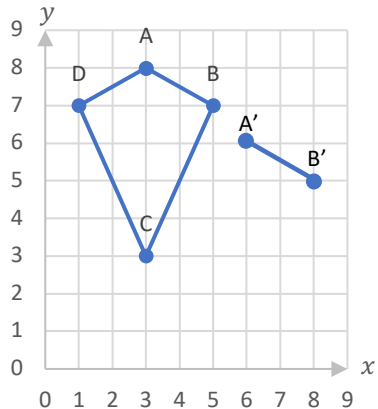
Sam bought a dog for £110. His nan gave him 30% of the money. How much did he have to pay himself?

**£77**

1 mark

3

Kyle has drawn a kite ABCD on this grid.



Holly has started to draw an identical kite by plotting A' and B'. What will be the coordinates of C' and D'?

**C' (6,1) D' (4,5)**

1 mark

4

The timetable below shows the bus times to 5 towns.

Bus Stop	Arrival Time		
Market Street	09:13	09:55	10:18
Northfield	09:23		
Euston	09:33	10:05	
Southby			
Westerham			10:46

How long is the journey from Market Street to Westerham?

**28mins**

1 mark

5

A bag of potatoes weighs 2.6kg. A pack of 6 lemons weighs 320g and a bag of flour weighs 1.5kg. Bobby bought 2 bags of potatoes, a pack of lemons and 3 bags of flour. Find the total weight of his purchase.

**10.02kg or 10,020g**

1 mark