Year 5 Fractions Decimals and Percentage

Q1.

Write the missing numbers.

One is done for you.

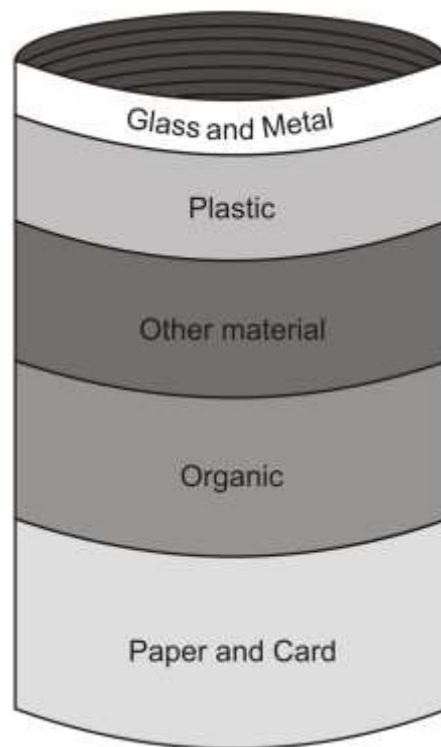| Improper fraction	Mixed number
$\dfrac{7}{4}$	$1\dfrac{3}{4}$
$\dfrac{\square}{2}$	$5\dfrac{1}{2}$
$\dfrac{17}{5}$	$3\dfrac{\square}{5}$

2 marks

Q2.

How many quarters are there in $2\dfrac{3}{4}$?

1 mark

Q3.

This diagram shows the proportions of waste by weight a family throws away in one year,

Glass and Metal
Plastic
Other material
Organic
Paper and Card

Estimate what **fraction** of the waste is **organic**.

1 mark

The family throws away about **35 kilograms of plastic** in a year.

Use the diagram to estimate the weight of **glass and metal** they throw away.

kg

1 mark

The family throws away **130 kg** of paper and card.

70% of this is **newspapers**.

What is the weight of **newspapers**?

Show
your
method

kg

2 marks

Q4.

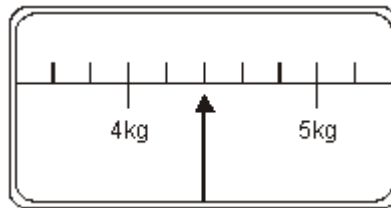Calculate $\frac{3}{8}$ of **980**

1 mark

Q5.

This scale shows the weight of Fred's cat.

Fred's cat
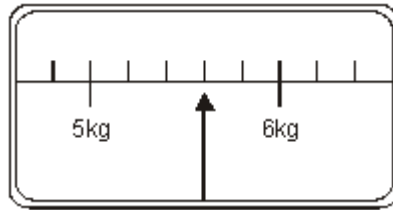
4 kg   5 kg

What is the weight of Fred's cat?
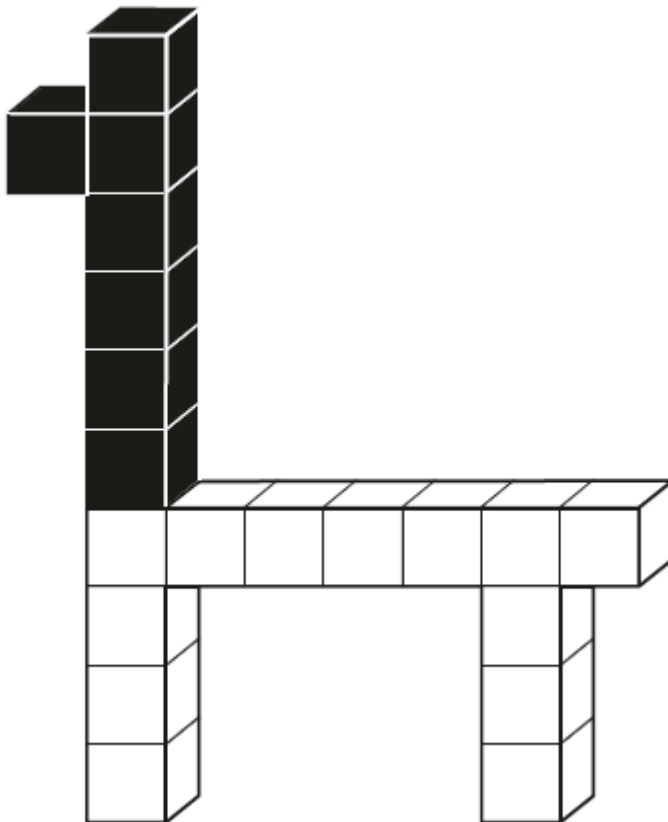
kg

1 mark

This scale shows the weight of Fred's dog

Fred's dog

How much **more** does Fred's dog weigh than his cat?

	kg

1 mark

Q6.

This model is made with 20 cubes.

What **percentage** of the cubes in the model is black?

	%

1 mark

Q7.

Write these in order of size, starting with the smallest.

$$\frac{3}{4} \qquad 0.34 \qquad 0.7 \qquad 43\%$$

smallest

1 mark

Q8.

Draw a line to join each fraction to a percentage of the same value.
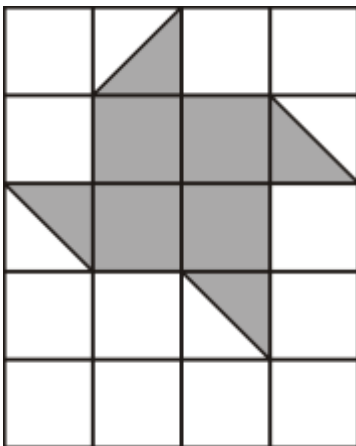

1 mark

Q9.

If you know **40%** of a number, explain how you could work out the original number.
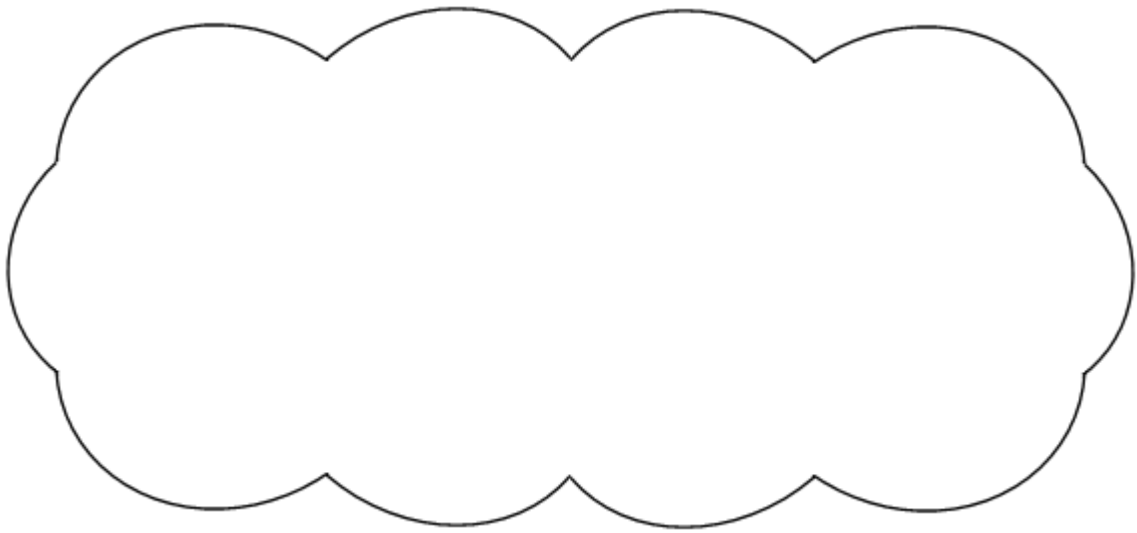
1 mark

Q10.
Here is a grid of 20 squares.

What percentage of the grid is shaded?

%

1 mark
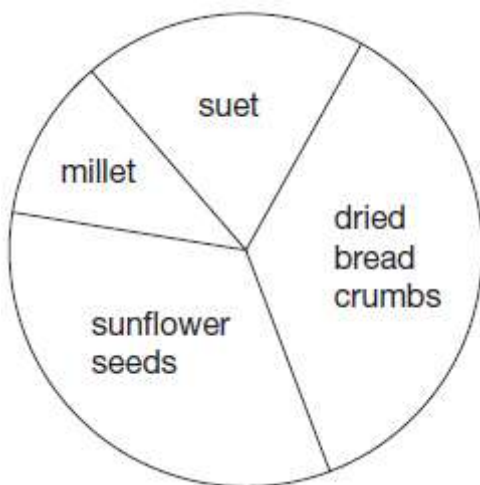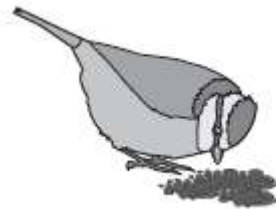
Q11.
Write the missing number.

Original price £60

Reduced by [   ] %

Now only £45

1 mark

Q12.

This pie chart shows the ingredients to make a food mixture for wild birds.

suet

millet

dried bread crumbs

sunflower seeds

Estimate the **percentage** of mixture that is suet.
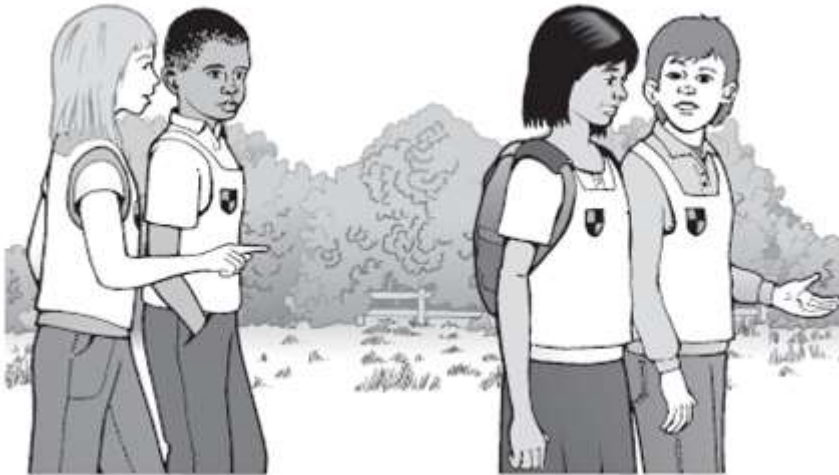
[   ] %

1 mark

Mina uses 100 grams of millet in the mixture.

Estimate how many grams of sunflower seeds she should use.

g

1 mark

Q13.

Seb goes on a sponsored walk to collect money for charity.

His aunt promises to pay 75p for each kilometre he walks.

She pays him £6.75 at the end of the walk.

How many kilometres does Seb walk?

km

1 mark

15% of the people walk 5 km or less.

40% of the people walk 8 km or more.

What percentage of the people walk between 5 km and 8 km?

%

1 mark

Q14.

Children run a 100 metres race on Sports Day.

Here are their times.

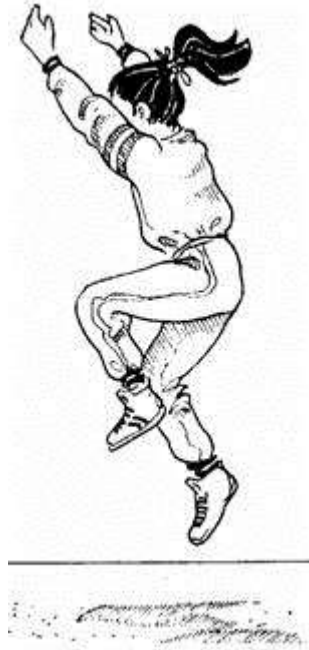| Name	Time taken
Sue	15.97 secs
Jan	16.39 secs
Sam	14.83 secs
Tom	17.00 secs
Raj	15.89 secs

What is the **winner's** time?

seconds

1 mark

Who has the time **nearest** to 16 seconds?
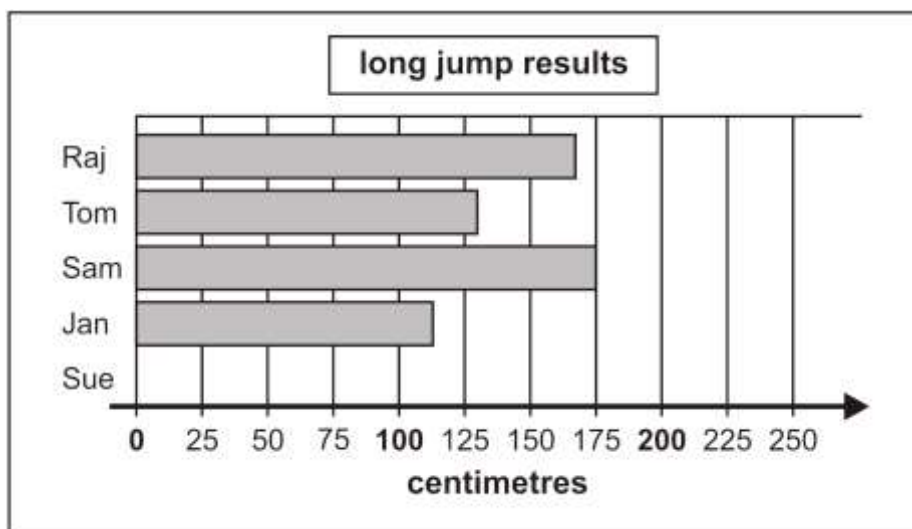

1 mark

Here are their long jump results.

Sue jumped **212 cm**.

Draw Sue's long jump result on the graph.

1 mark

Use the graph to estimate how **much further** Sam jumped than Jan.

	cm

1 mark

Q15.

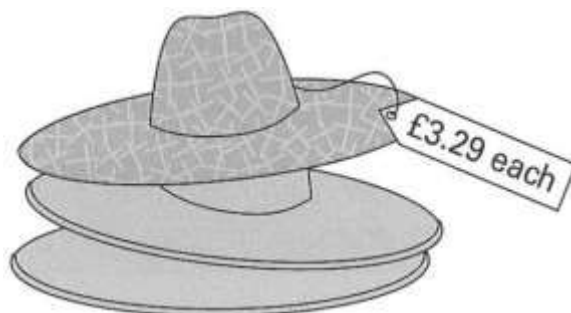A shop sells three types of sunglasses.

£4.69

£2.99

£5.85

What is the **difference** in price between the **most** expensive and **least** expensive sunglasses?

£	

1 mark

The shop also sells sun hats.

£3.29 each

Ryan buys the **£4.69 sunglasses** and a **sun hat**.

How much change does he get from **£10**?

Show
your
method

2 marks

Q16.
Tick (✓) the **two** numbers which have a total of **10**

| 0.01 | 0.11 | 1.01 |

| 9.09 | 9.9 | 9.99 |

1 mark

Q17.
Write these numbers in order, starting with the **smallest**.

0.78   0.607   5.6   0.098   4.003

| | | | | |

smallest

1 mark

Q18.

Write these numbers in order of size, starting with the **smallest**.

1.01	1.001	1.101	0.11

smallest

1 mark

Which one of these fractions is **closest in value to** $\frac{1}{3}$?

$$\frac{10}{31} \qquad \frac{20}{61} \qquad \frac{30}{91} \qquad \frac{40}{121} \qquad \frac{50}{151}$$

1 mark

Q19.

Write these numbers in order, starting with the smallest.

8.12	1.8	8.118	8.2	1.28

smallest

1 mark

Q20.

Match each box to the number which has the same value.

One has been done for you.

$\dfrac{3}{4}$

$\dfrac{1}{2}$

$\dfrac{4}{5}$

0.5

0.8

0.3

0.75

0.4
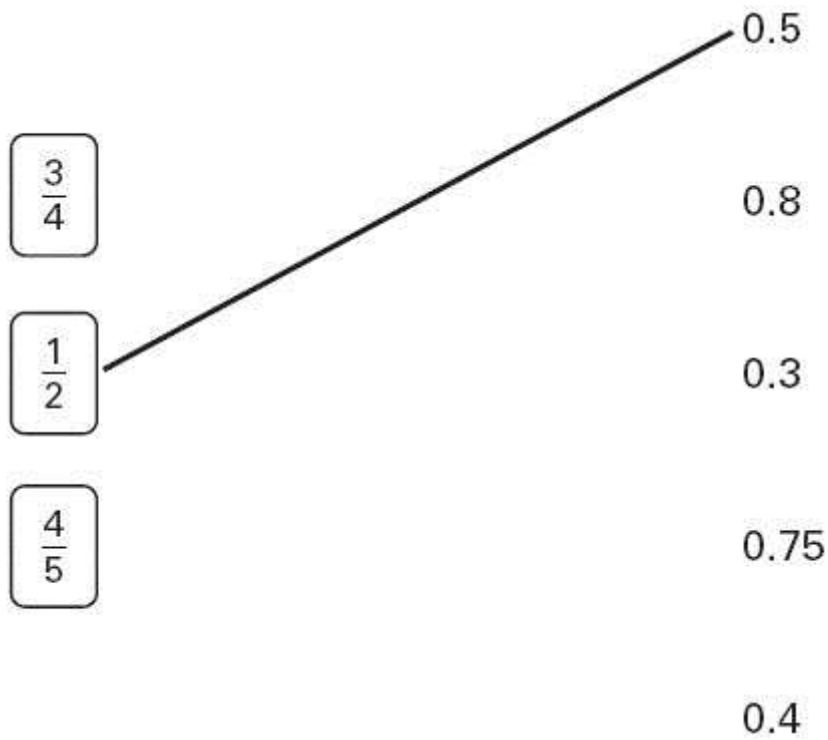
1 mark

Q21.
Here are three supermarket bills.

Total £74.68   Total £65.90   Total £59.05
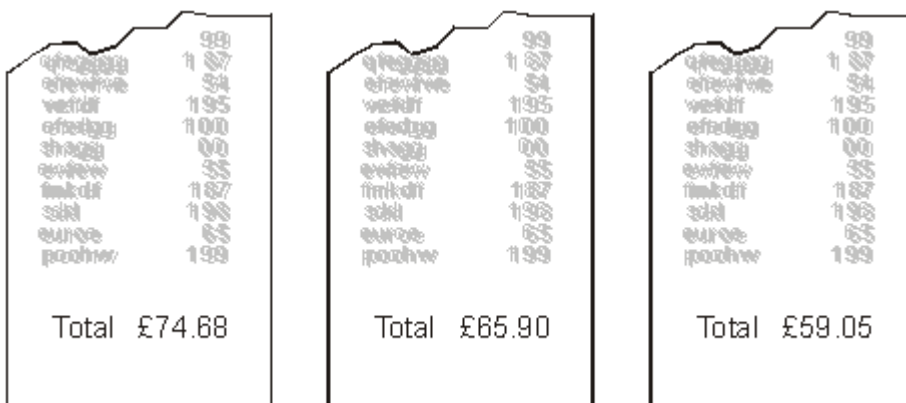
Tom rounds each bill **to the nearest £10** and then adds them up.

What is the total amount that Tom gets?

£

1 mark

Mary adds up the three bills **exactly**.

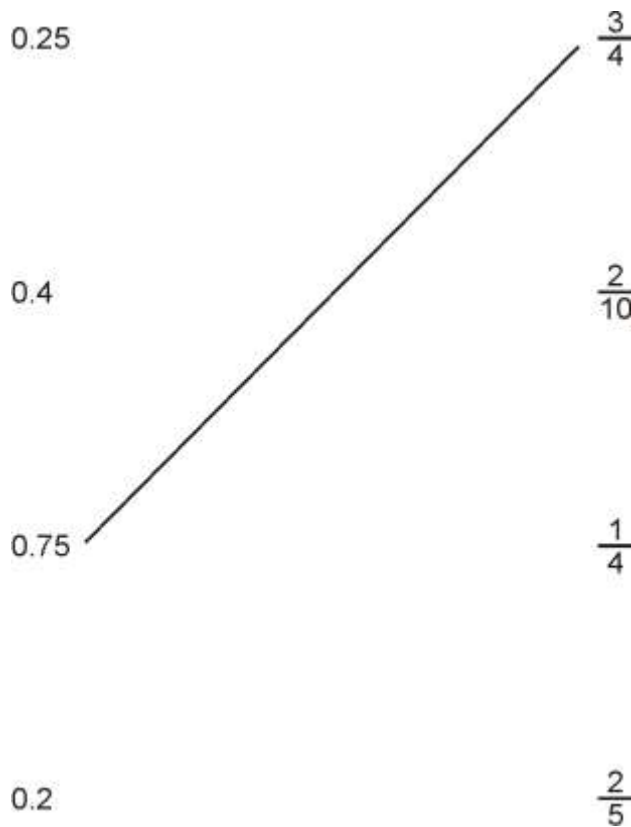What is the total difference between her total and Tom's total?

Show
your
method

2 marks

Q22.
Match each decimal number to its equivalent fraction.

One has been done for you.

0.25 $\frac{3}{4}$

0.4 $\frac{2}{10}$

0.75 $\frac{1}{4}$

0.2 $\frac{2}{5}$

1 mark

Q23.
Write in the missing numbers.

One is done for you.

$$0.321 = \frac{\boxed{321}}{1{,}000} \qquad 2.433 = \frac{\boxed{}}{1{,}000}$$

$$\boxed{} = \frac{457}{1{,}000} \qquad \boxed{} = \frac{23}{1{,}000}$$

2 marks

Q24.

Put a tick (✓) in **each row** to complete this table.

One has been done for you.

	greater than $\frac{1}{2}$	less than $\frac{1}{2}$
0.9	✓	
0.06		
$\frac{11}{20}$		
0.21		

2 marks

Q25.

Calculate of $\frac{5}{12}$ of **378**

1 mark

Q26.

(a)   Write numbers in the boxes to make this fraction calculation correct.

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$$\frac{1}{\square} + \frac{\square}{5} = \frac{7}{10}$$

1 mark

(b)   Now write two **different** numbers to make the calculation correct.

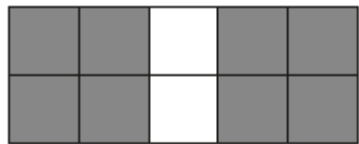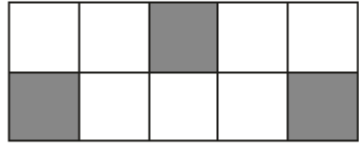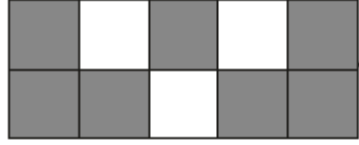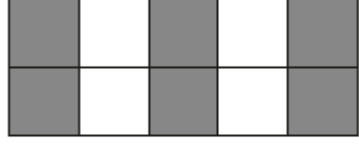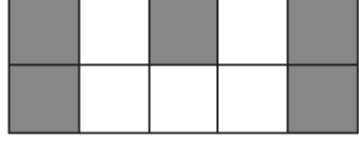$$\frac{1}{\square} + \frac{\square}{5} = \frac{7}{10}$$

1 mark

Q27.

Here are some shapes made of squares.

A fraction of each shape is shaded.

Match each shape to its equivalent fraction.

One has been done for you.

$\frac{7}{10}$

$\frac{3}{5}$

$\frac{1}{2}$

$\frac{4}{5}$

$\frac{3}{10}$

2 marks

Q28.
Here are five number cards.

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

Use **three** of the number cards to make this calculation correct.

$$\left(\boxed{} + \boxed{} \right) \times \boxed{} = 10$$

1 mark

Q29.

Write these fractions in order of size starting with the smallest.

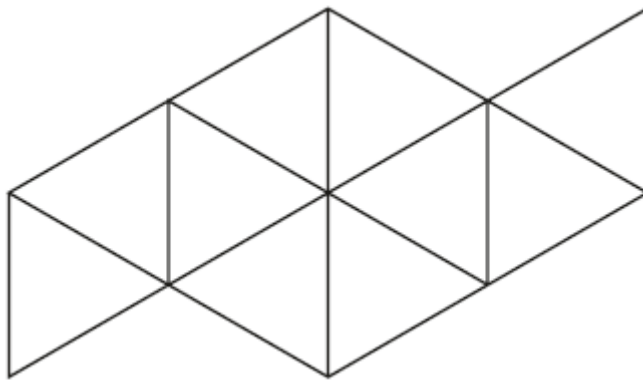$$\frac{3}{4} \qquad \frac{3}{5} \qquad \frac{9}{10} \qquad \frac{17}{20}$$
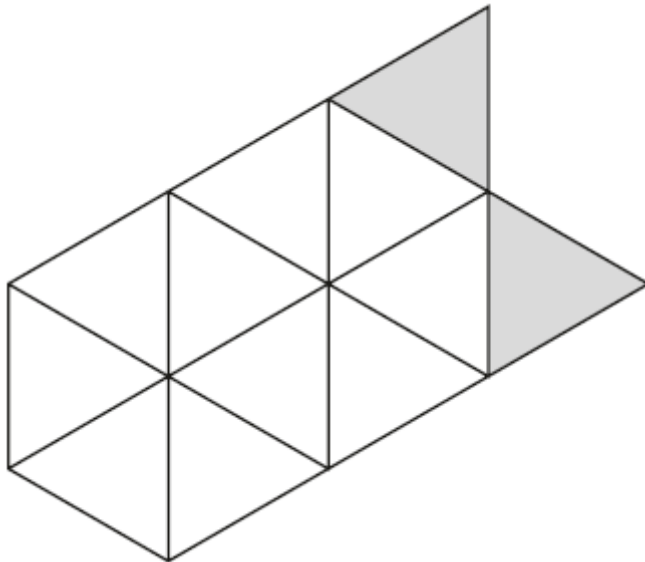

smallest

1 mark

Q30.

Shade $\frac{1}{5}$ of this shape.

1 mark

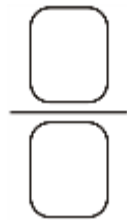Shade **more** triangles on this shape so that is $\frac{1}{3}$ shaded

1 mark

Q31.

Here are some number cards.

Use **two** of the cards to make a fraction which is **less than** $\frac{1}{2}$.

1 mark

How much **less than 1** is your fraction?

_____

1 mark

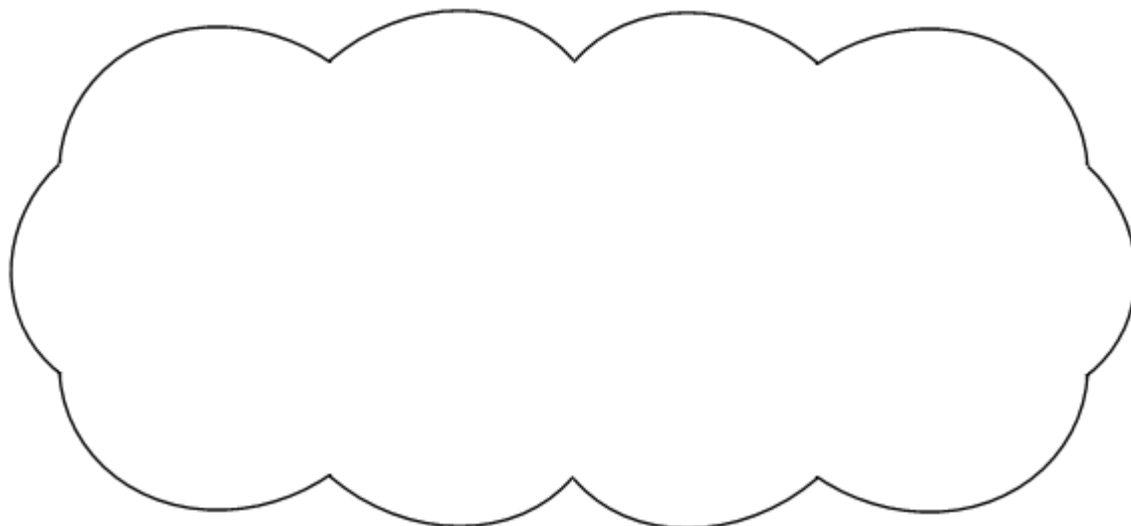**Q32.**

Holly says,

    'One-third of this shape is shaded'.

Is Holly correct?

Circle **Yes** or **No**.   Yes / No

Explain how you know.

1 mark

Q33.

Two of the fractions below are **equivalent**.

Circle them.

$$\frac{2}{3} \qquad \frac{6}{10} \qquad \frac{9}{12} \qquad \frac{10}{15} \qquad \frac{16}{20}$$

1 mark

Q34.

Circle the **two** fractions that are **greater than** $\frac{1}{2}$

$$\frac{1}{8} \qquad \frac{6}{10} \qquad \frac{5}{8} \qquad \frac{3}{10}$$

1 mark