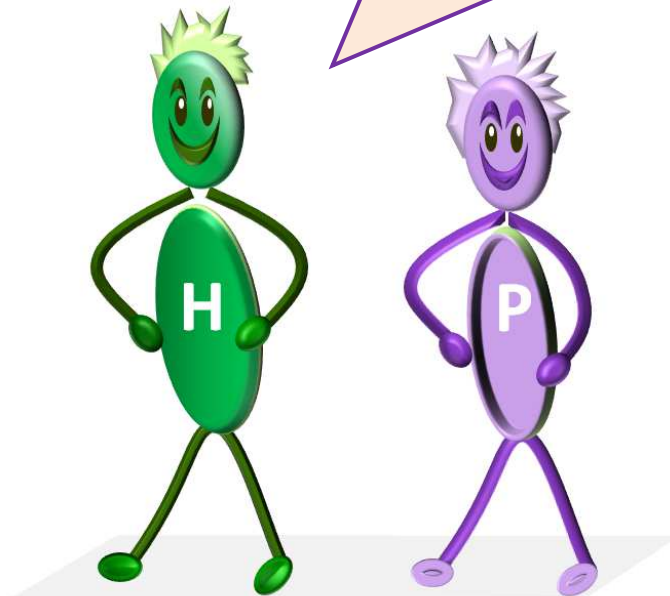


Henry and Poppy
have fun with numbers

Year 5 maths part 2

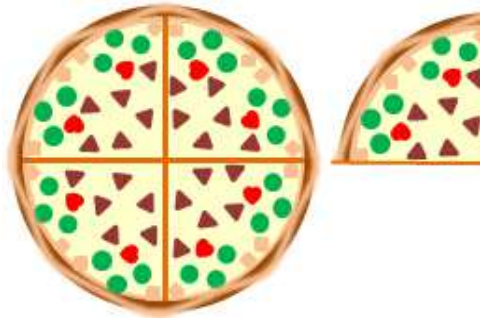
(for 9-10 year olds)

We had fun making these questions
for you. Enjoy them.



1

A mixed number is one with wholes and fractions



It's easy to explain this with pizzas!

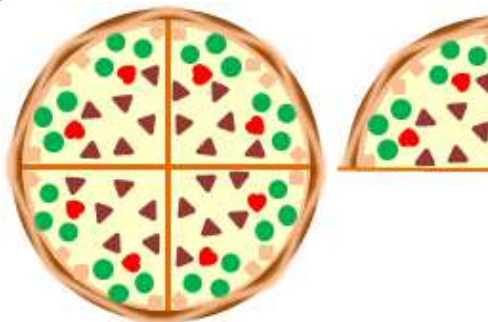
This is one pizza and a quarter of a pizza or

$$1\frac{1}{4}$$

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{3}{5} + \frac{2}{5} = 1\frac{1}{5}$]

2

An Improper fraction has a top number bigger than (or equal to) the bottom number



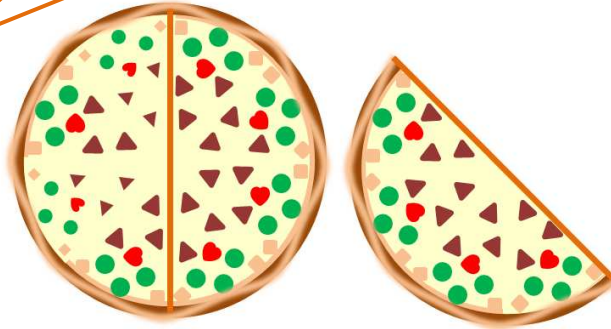
This is five quarters of a pizza or

$$\frac{5}{4}$$

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{3}{5} + \frac{2}{5} = 1\frac{1}{5}$]

3

What are these as mixed numbers and improper fractions.



mixed

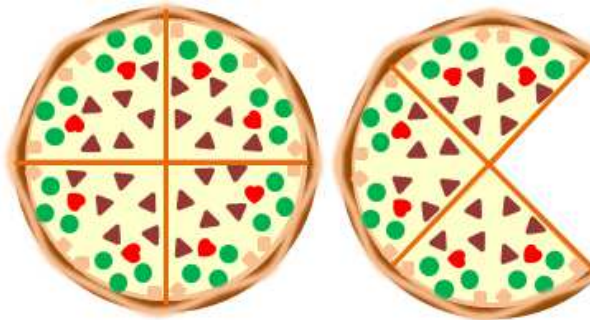
improper

1 mark

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{3}{2} + \frac{1}{2} = 1 \frac{1}{2}$]

4

What are these as mixed numbers and improper fractions.



mixed

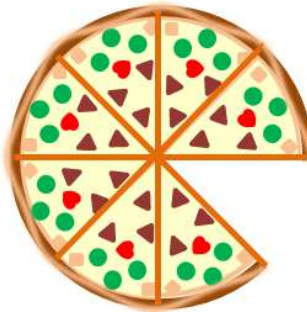
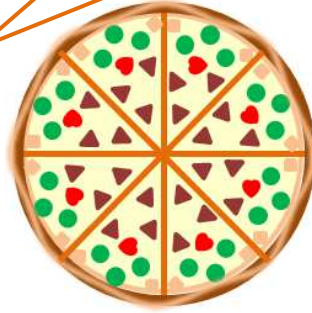
improper

1 mark

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{3}{2} + \frac{1}{2} = 1 \frac{1}{2}$]

5

What are these as mixed numbers and improper fractions.



mixed

improper

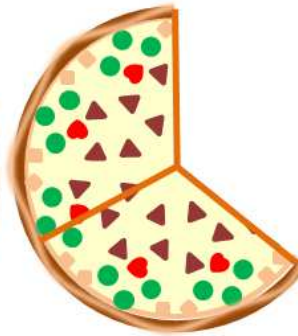
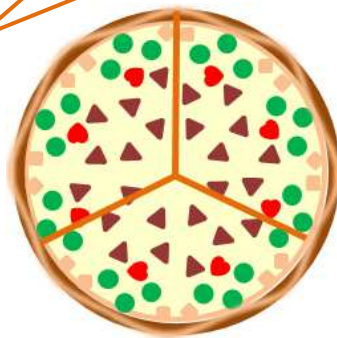
1 mark



5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{3}{5} + \frac{2}{5} = 1 \frac{1}{5}$]

6

What are these as mixed numbers and improper fractions.



mixed

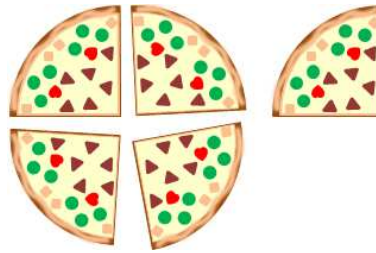
improper

1 mark



5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{3}{5} + \frac{2}{5} = 1 \frac{1}{5}$]

I can change these improper fractions into mixed numbers using pizza pieces



These are all quarter pieces and I have five

that's $\frac{5}{4}$

If you put four quarters together they make one whole with one piece left over, so

$$\frac{5}{4} = 1 \frac{1}{4}$$



5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{5}{4} = 1 \frac{1}{4}$]

8

Change these improper fractions into mixed numbers.



$$\frac{7}{4}$$



$$\frac{6}{5}$$



2 marks

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{7}{5} + \frac{4}{5} = 1 \frac{1}{5}$]

9

Change these improper fractions into mixed numbers.



$$\frac{7}{2}$$



$$\frac{6}{4}$$



2 marks

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{7}{5} + \frac{4}{5} = 1 \frac{1}{5}$]

10

I know a quick way to change a mixed number into an improper fraction, like the one below



whole → $1 \frac{2}{3}$

top of fraction

bottom of fraction

Multiply the whole by the bottom of the fraction then add the top of the fraction

$$\text{So } 1 \times 3 + 2 = 5$$

$$1 \frac{2}{3} = \frac{5}{3}$$



5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{2}{5} + \frac{3}{5} = 1 \frac{1}{5}$]

11

Change these mixed numbers into improper fractions.



$$1 \frac{2}{5} \rightarrow$$

$$2 \frac{3}{4} \rightarrow$$

2 marks

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{2}{5} + \frac{3}{5} = 1 \frac{1}{5}$]

12

Change these mixed numbers into improper fractions.



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

$$2 \frac{3}{4} \rightarrow \boxed{}$$

2 marks

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{2}{5} + \frac{3}{5} = 1 \frac{1}{5}$]

13

Change these mixed numbers into improper fractions.



$$3 \frac{1}{3} \rightarrow \boxed{}$$

$$3 \frac{3}{4} \rightarrow \boxed{}$$

2 marks

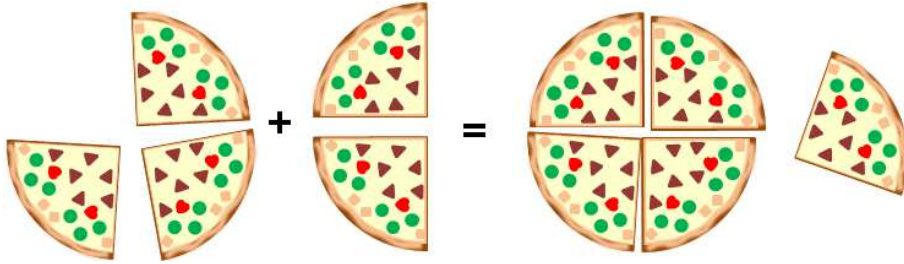
5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{2}{5} + \frac{3}{5} = 1 \frac{1}{5}$]

14

You can add fractions by adding pieces of pizza



So $\frac{3}{4} + \frac{2}{4} = \frac{5}{4} = 1\frac{1}{4}$



5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{5}{4} + \frac{1}{4} = 1\frac{1}{2}$]

15

Add these proper fractions to give an improper fraction and a mixed number.



$$\frac{2}{3} + \frac{2}{3} = \square \quad \square$$

$$\frac{3}{5} + \frac{4}{5} = \square \quad \square$$

2 marks

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{5}{4} + \frac{1}{4} = 1\frac{1}{2}$]

16



Add these proper fractions to give an improper fraction and a mixed number.

$$\frac{3}{4} + \frac{3}{4} = \boxed{} \boxed{}$$

$$\frac{5}{6} + \frac{5}{6} = \boxed{} \boxed{}$$

2 marks

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{3}{2} + \frac{3}{2} = 1 \frac{1}{2}$]

17



Tick the mixed number which is the same as this improper fraction

$$\frac{17}{8}$$

$$2 \frac{1}{4} \quad 1 \frac{7}{8} \quad 2 \frac{1}{8} \quad 8 \frac{7}{8}$$

1 mark

5F2a: Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number [e.g.: $\frac{3}{2} + \frac{3}{2} = 1 \frac{1}{2}$]

1

Match the top fraction with a line

Numerator

$$\frac{2}{10}$$

Denominator

$$\frac{1}{4} \quad \frac{3}{12} \quad \frac{4}{6} \quad \frac{1}{5}$$

1 mark

5F2b: identify name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

2

Complete the missing numerator (top)

$$\frac{1}{3} = \frac{\quad}{6}$$

$$\frac{1}{2} = \frac{\quad}{6}$$

$$\frac{4}{6} = \frac{\quad}{3}$$

3 marks

5F2b: identify name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

3

Complete the missing numerator (top)

$$\frac{1}{8} = \frac{\quad}{24}$$

$$\frac{1}{2} = \frac{\quad}{12}$$

$$\frac{3}{5} = \frac{\quad}{10}$$

3 marks

5F2b: identify name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

4

Complete the missing numerator (top)

$$\frac{1}{4} = \frac{\quad}{20}$$

$$\frac{1}{2} = \frac{\quad}{30}$$

$$\frac{6}{9} = \frac{\quad}{3}$$

3 marks

5F2b: identify name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

5

Complete the missing numerator (top)

$$\frac{5}{8} = \frac{\quad}{16}$$

$$\frac{3}{4} = \frac{\quad}{20}$$

$$\frac{4}{7} = \frac{\quad}{14}$$

3 marks

5F2b: identify name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

6

Complete the missing numerator (top)

$$\frac{10}{100} = \frac{\quad}{10}$$

$$\frac{25}{100} = \frac{\quad}{20}$$

$$\frac{6}{10} = \frac{\quad}{100}$$

3 marks

5F2b: identify name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

7

Complete the missing numerator (top)

$$\frac{10}{100} = \frac{\quad}{10} = \frac{\quad}{20} = \frac{\quad}{50}$$

$$\frac{25}{100} = \frac{\quad}{20} = \frac{\quad}{4} = \frac{\quad}{40}$$

$$\frac{6}{10} = \frac{\quad}{100} = \frac{\quad}{20} = \frac{\quad}{5}$$

3 marks

5F2b: identify name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths



1

Order these fractions

$$\frac{1}{2} \quad \frac{3}{8} \quad \frac{3}{4} \quad \frac{5}{12} \quad \frac{5}{6}$$

Smallest

Largest

--	--	--	--	--

1 mark

5F3: Compare and order fractions whose denominators are all multiples of the same number

2

Use $<$, $>$ or $=$ for each pair of fractions.

$$\frac{1}{10} \quad \square \quad \frac{1}{11}$$

$$\frac{4}{10} \quad \square \quad \frac{3}{5}$$

$$\frac{1}{2} \quad \square \quad \frac{6}{10}$$

$$\frac{5}{6} \quad \square \quad \frac{9}{12}$$

$$\frac{8}{9} \quad \square \quad \frac{16}{18}$$

$$\frac{4}{100} \quad \square \quad \frac{3}{50}$$

3 marks

5F3: Compare and order fractions whose denominators are all multiples of the same number

3

Use $<$, $>$ or $=$ for each pair of fractions.

$$\frac{9}{10} \quad \square \quad \frac{11}{20}$$

$$\frac{4}{10} \quad \square \quad \frac{30}{50}$$

$$\frac{1}{2} \quad \square \quad \frac{7}{14}$$

$$\frac{5}{6} \quad \square \quad \frac{15}{18}$$

$$\frac{6}{9} \quad \square \quad \frac{8}{12}$$

$$\frac{1}{6} \quad \square \quad \frac{1}{7}$$

3 marks

5F3: Compare and order fractions whose denominators are all multiples of the same number

3

Look at the fraction cards.

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

$$\frac{5}{6}$$

$$\frac{7}{9}$$

$$\frac{9}{12}$$

Use any **three** of the cards to make this correct.

$$\boxed{} < \boxed{} < \boxed{}$$

1 mark

5F3: Compare and order fractions whose denominators are all multiples of the same number

1

Complete the following

$$\frac{1}{5} + \frac{3}{5} = \square$$

$$\frac{6}{10} + \frac{3}{10} = \square$$

$$\frac{3}{4} + \frac{3}{4} = \square$$

3 marks

5F4: Add and subtract fractions with the same denominator and denominators that are multiples of the same number

2

Complete the following

$$\frac{1}{6} + \frac{3}{6} = \square$$

$$\frac{6}{7} + \frac{1}{7} = \square$$

$$\frac{3}{8} + \frac{5}{8} = \square$$

3 marks

5F4: Add and subtract fractions with the same denominator and denominators that are multiples of the same number

3

Complete the following

$$\frac{5}{6} - \frac{3}{6} = \boxed{}$$

$$\frac{6}{7} - \frac{1}{7} = \boxed{}$$

$$\frac{7}{8} - \frac{5}{8} = \boxed{}$$

3 marks

5F4: Add and subtract fractions with the same denominator and denominators that are multiples of the same number

4

Complete the following

$$\frac{4}{5} - \frac{3}{5} = \boxed{}$$

$$\frac{6}{10} - \frac{3}{10} = \boxed{}$$

$$\frac{3}{6} - \frac{1}{2} = \boxed{}$$

3 marks

5F4: Add and subtract fractions with the same denominator and denominators that are multiples of the same number

5

Complete the following

$$\frac{1}{10} + \frac{3}{5} = \square$$

$$\frac{6}{10} + \frac{3}{20} = \square$$

$$\frac{3}{6} + \frac{3}{12} = \square$$

3 marks

5F4: Add and subtract fractions with the same denominator and denominators that are multiples of the same number

6

Complete the following

$$\frac{4}{5} - \frac{3}{10} = \square$$

$$\frac{6}{10} - \frac{1}{5} = \square$$


$$\frac{4}{6} - \frac{1}{2} = \square$$

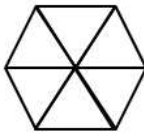
3 marks

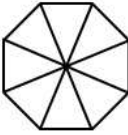
5F4: Add and subtract fractions with the same denominator and denominators that are multiples of the same number

7

Add the fractions and colour the shape

$$\frac{1}{5} + \frac{2}{5} = \square$$


$$\frac{1}{6} + \frac{3}{6} = \square$$


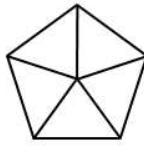
$$\frac{3}{8} + \frac{2}{8} = \square$$


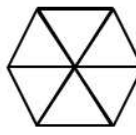
3 marks

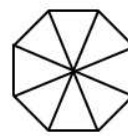
5F4: Add and subtract fractions with the same denominator and denominators that are multiples of the same number

8

Subtract the fractions and colour the shape

$$\frac{4}{5} - \frac{2}{5} = \square$$


$$\frac{5}{6} - \frac{1}{6} = \square$$


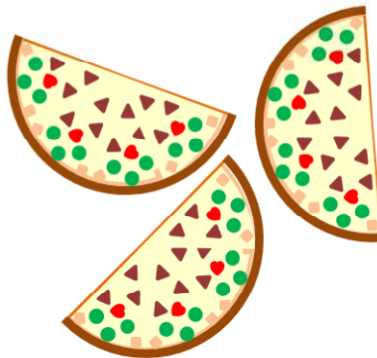
$$\frac{7}{8} - \frac{3}{8} = \square$$


3 marks

5F4: Add and subtract fractions with the same denominator and denominators that are multiples of the same number

1

Mummy, Nanny and me eat half a pizza each



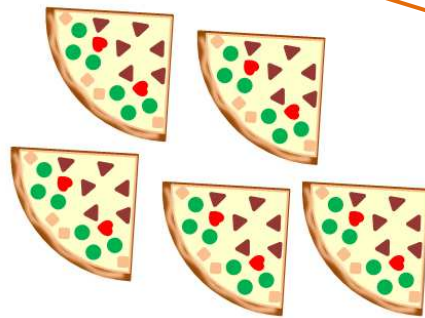
That's 3 pieces of $\frac{1}{2}$ or $3 \times \frac{1}{2} = \frac{3}{2} = 1\frac{1}{2}$



5F5: Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

2

I had a party with four friends and we eat a quarter pizza each



How much is that as an improper fraction and a mixed number

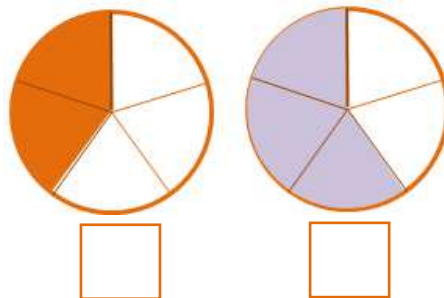


1 mark

5F5: Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

3

Which one of these pictures shows $3 \times \frac{1}{5}$

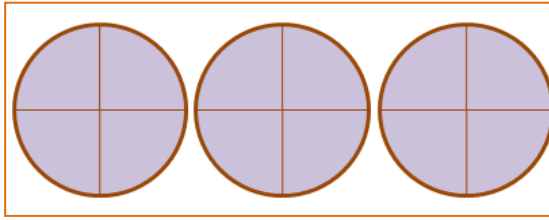
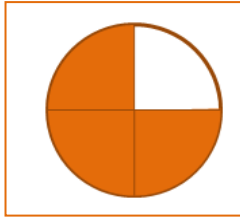


1 mark

5F5: Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

4

Which one of these pictures shows $3 \times \frac{1}{4}$

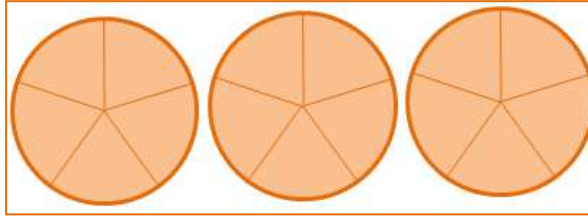
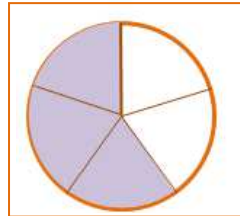


1 mark

5F5: Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

5

Which one of these pictures shows $3 \times \frac{1}{5}$



1 mark

5F5: Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

1 Match the fractions and decimal numbers.

$$\frac{2}{100}$$

0.1

$$\frac{1}{10}$$

0.2

$$\frac{20}{100}$$

0.01

$$\frac{1}{100}$$

0.02

1 mark

5F6a - Read and write decimal numbers as fractions [e.g.: 0.71 = 71/100]

2 Match the fractions and decimals with a line

$$\frac{6}{10}$$

$$\frac{25}{100}$$

$$\frac{7}{10}$$

$$\frac{1}{100}$$

$$\frac{50}{100}$$

0.5

0.25

0.6

0.01

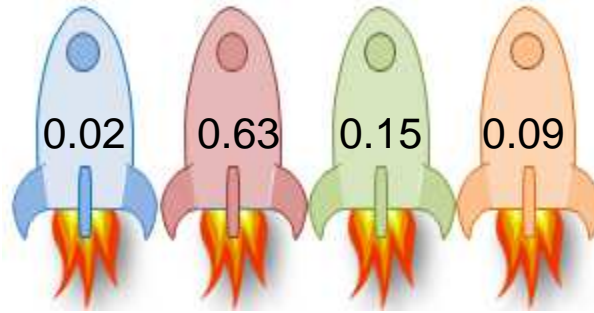
0.7

1 mark

5F6a - Read and write decimal numbers as fractions [e.g.: 0.71 = 71/100]

3

Write the decimals in hundredths



$\frac{\quad}{100}$

$\frac{\quad}{100}$

$\frac{\quad}{100}$

$\frac{\quad}{100}$

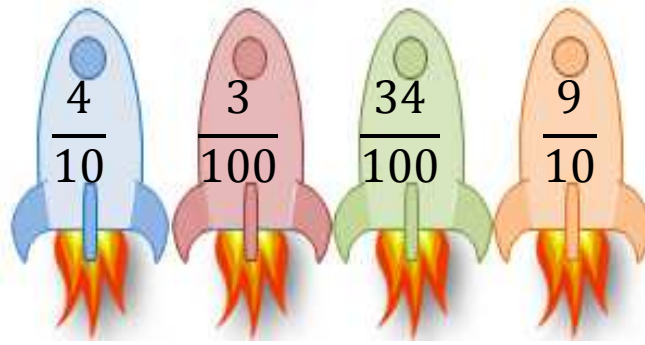
1 mark

5F6a - Read and write decimal numbers as fractions [e.g.: 0.71 = 71/100]



1

Write the fractions in thousandths



$\frac{\quad}{1000}$

$\frac{\quad}{1000}$

$\frac{\quad}{1000}$

$\frac{\quad}{1000}$

1 mark

5F6b - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

2

Look at this number :

1.02345

Write the digit that is in the one thousandth place

1 mark

5F6b - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

2

Look at this number :

1.9876

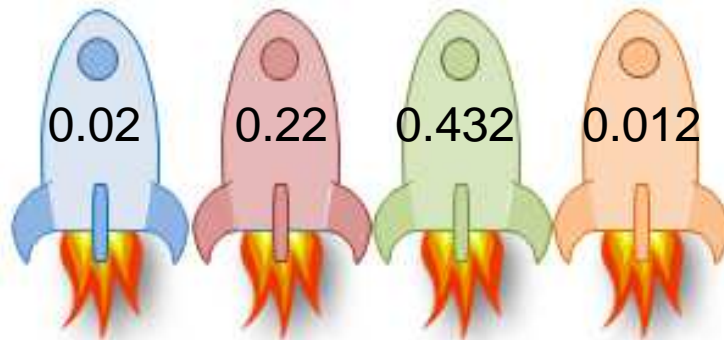
Write the digit that is in the one hundredth place

1 mark

5F6b - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

3

Write the decimals in thousandths



1000

1000

1000

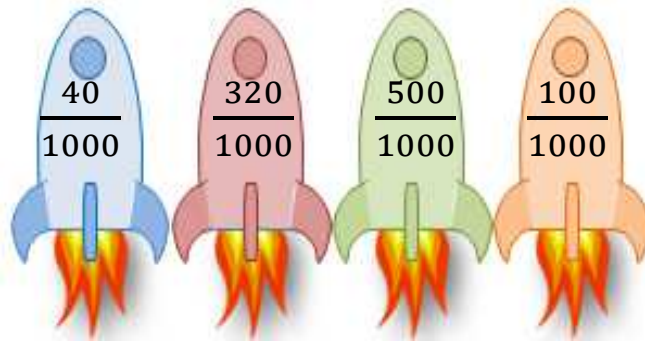
1000

1 mark

5F6b - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

4

Write the fractions in hundredths

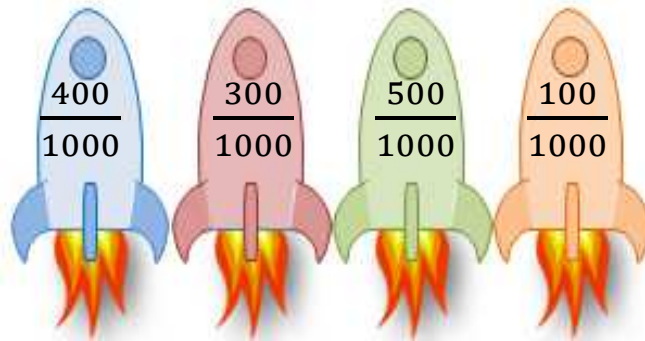
 $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$ $\frac{\quad}{100}$

1 mark

5F6b - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

5

Write the fractions in tenths

 $\frac{\quad}{10}$ $\frac{\quad}{10}$ $\frac{\quad}{10}$ $\frac{\quad}{10}$

1 mark

5F6b - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

1

What's a decimal place?



12.34

and each number after the decimal point is called a decimal place

This dot is the decimal point
It splits the whole part of the number from the fraction part



5F7: Round decimals with two decimal places to the nearest whole number and to one decimal place.

2

So this number has two decimal places?



12.34

Yes, there are two numbers after the decimal point: 3 and 4



5F7: Round decimals with two decimal places to the nearest whole number and to one decimal place.

3

So what's this number to two decimal places



32.123

There are three numbers after the decimal point so we have to ignore one – it will be 32.12



5F7: Round decimals with two decimal places to the nearest whole number and to one decimal place.

4

What's this number to two decimal places



32.125

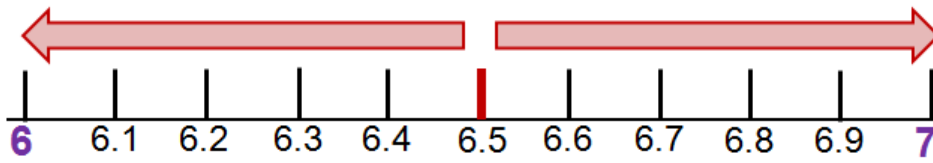
Oh that's a tricky one. Because the last number is 5 we round up the 2 to 3 – it will be 32.13



5F7: Round decimals with two decimal places to the nearest whole number and to one decimal place.

5

Round these decimals to the nearest whole number



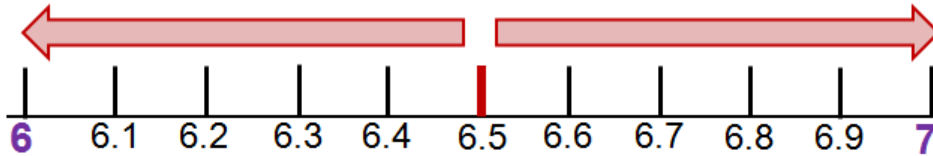
6.25 → 6.66 → 6.95 →
6.15 → 6.43 → 6.75 →

2 marks

5F7: Round decimals with two decimal places to the nearest whole number and to one decimal place.

6

Round these decimals to one decimal place



6.25 → 6.66 → 6.95 →
6.15 → 6.43 → 6.75 →

2 marks

5F7: Round decimals with two decimal places to the nearest whole number and to one decimal place.

7

Round these decimals to the nearest whole number

9.25 → 4.66 → 5.95 →
6.55 → 7.44 → 8.81 →

2 marks

5F7: Round decimals with two decimal places to the nearest whole number and to one decimal place.

8

Round these decimals to one decimal place

8.26 → 1.64 → 2.95 →
7.59 → 0.41 → 3.85 →

2 marks

5F7: Round decimals with two decimal places to the nearest whole number and to one decimal place.

1

Order these decimals starting with the smallest.

2.32 2.91 2.102 2.403 2.65 2.27

1 mark

5F8: Read, write, order and compare numbers with up to three decimal places.



2

Order these decimals starting with the smallest.

0.321 0.13 0.239 0.402 0.41 0.09

1 mark

5F8: Read, write, order and compare numbers with up to three decimal places.



3

For each pair, tick (✓) the smallest decimal

5.302 5.213

6.39 6.93

3.006 3.601

0.241 0.149

4 marks

5F8: Read, write, order and compare numbers with up to three decimal places.



1



Poppy and I went for a walk to Nanny's house

Each way it is 1.23 km How far is it there and back?

km

5F10: Solve problems involving numbers up to three decimal places

2

Poppy went for a car drive with mummy.
First she went to the supermarket – 4.65km
Then to the play centre – 2.35km
Then back home – 3.75km
How far did she travel altogether

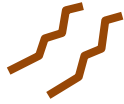
km

1 mark

5F10: Solve problems involving numbers up to three decimal places

5

Henry measured the length of two sticks.



The smallest was 25.23cm

The largest was 26.09 cm

How long were the sticks altogether.

m

1 mark

5F10: Solve problems involving numbers up to three decimal places

6

Henry measured the length of two worms.



The smallest was 0.012 m

The largest was 0.014 m

What was the difference in their lengths

m

1 mark

5F10: Solve problems involving numbers up to three decimal places

7

Order these lengths starting with the smallest.

123cm 1.3m 0.31m 25cm 10m

--	--	--	--	--

1 mark

5F10: Solve problems involving numbers up to three decimal places

8

Order these numbers starting with the smallest.

0.123 0.012 0.003 0.103 0.120

--	--	--	--	--

1 mark

5F10: Solve problems involving numbers up to three decimal places

1

What does per cent mean



It's a fraction out of 100 like $\frac{7}{100}$

But instead of writing $\frac{7}{100}$ you write 7%



5F11: Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'; write percentages as a fraction with denominator hundred, and as a decimal.

2

The two 0's in the percent sign and the slash come from the hundred: 100



That's right. % means out of 100

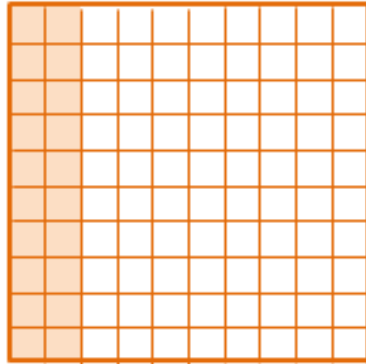


5F11: Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'; write percentages as a fraction with denominator hundred, and as a decimal.

3



% means out of 100



20 squares are shaded out of 100 so this is 20%

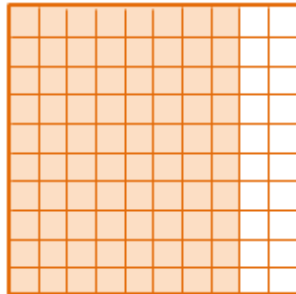


5F11: Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'; write percentages as a fraction with denominator hundred, and as a decimal.

4



What **%** is shaded



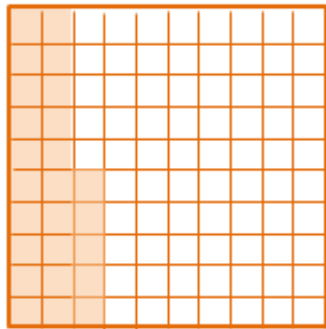
1 mark

5F11: Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'; write percentages as a fraction with denominator hundred, and as a decimal.

5



What % is shaded



1 mark

5F11: Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'; write percentages as a fraction with denominator hundred, and as a decimal.

6

$$\frac{1}{2} \rightarrow \frac{50}{100} \rightarrow 50\%$$

This is how to write a fraction as a %

$$\frac{1}{4} \rightarrow \frac{\boxed{}}{100} \rightarrow \boxed{}\%$$

$$\frac{3}{4} \rightarrow \frac{\boxed{}}{100} \rightarrow \boxed{}\%$$

Now it's your turn

1 mark

5F11: Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'; write percentages as a fraction with denominator hundred, and as a decimal.

7

$$0.50 \rightarrow \frac{50}{100} \rightarrow 50\%$$

This is how to write a decimal as a %

$$0.20 \rightarrow \frac{\boxed{}}{100} \rightarrow \boxed{}\%$$

$$0.70 \rightarrow \frac{\boxed{}}{100} \rightarrow \boxed{}\%$$

Now it's your turn

1 mark

5F11: Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'; write percentages as a fraction with denominator hundred, and as a decimal.

To change a decimal to a percentage % move the decimal point two places to make the number bigger like this

$$0.21 \rightarrow \frac{21}{100} \rightarrow 21\%$$

$$0.6 \rightarrow \frac{60}{100} \rightarrow 60\%$$

$$0.09 \rightarrow \frac{9}{100} \rightarrow 9\%$$

If the decimal is like 0.6 put a zero after it then move the point $0.6 \rightarrow 0.60 \rightarrow 60\%$



5F11: Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'; write percentages as a fraction with denominator hundred, and as a decimal.

4

What is

0.9 as a percentage

$\frac{3}{10}$ as a percentage

25% as a decimal

20% as a fraction

4 marks

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25



5

What is

0.8 as a fraction

$\frac{3}{10}$ as a decimal

75% as a fraction

0.4 as a percentage

4 marks

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25



6

What is

$\frac{10}{25}$ as a percentage

$\frac{3}{25}$ as a decimal

$\frac{8}{50}$ as a percentage

0.75 as a percentage

4 marks

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25

1

In a test out of 20 marks I got 20%. How many marks did I get?



You have to do: 20% of 20 or $20\% \times 20$

You can cross off the two zeros and the zeros in the percentage sign

$$20\cancel{\%} \times 2\cancel{0} \text{ becomes } 2 \times 2 = 4$$

It only works when you have two zeros in the problem



5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25

2

OK let's do these percentages



$$3\cancel{0}\cancel{\%} \text{ of } 3\cancel{0} \text{ becomes } 3 \times 3 = 9$$

$$6\cancel{0}\cancel{\%} \text{ of } 5\cancel{0} \text{ becomes } 6 \times 5 = 30$$

What is 70% of 40 =

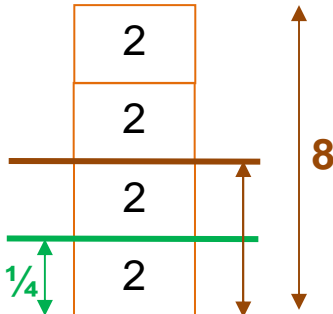
90% of 90 =

2 marks

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25

3

Doing 75% or 25% of something is easy if you can halve numbers



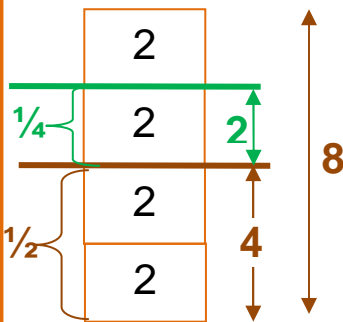
For 25% of 8 just halve 8 twice to get 2

2 marks

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25

4

For 75% of 8, halve it gives 4 (50%, $\frac{1}{2}$) then halve again gives 2. (25%, $\frac{1}{4}$) Then add them 50% + 25% to get 6 ($\frac{3}{4}$)



2 marks

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25

5

If you get 44% of 25 you can move the % to the other number



So 44% of 25 becomes 25% of 44
That's $\frac{1}{4}$ of 44 = 11
Yippee I'm a genius!

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25

6

I bet you can't do 24% of 25



24% of 25 =

or 64% of 25

24% of 25 =

2 marks

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25

7

That trick works with 24% of 75 as well

24% of 75 =

or 64% of 75

64% of 75 =

2 marks

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25

8

Use all your tricks to do these

24% of 50 =

60% of 90 =

60% of 75 =

90% of 90 =

88% of 25

5 marks

5F12: Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$ and those fractions with a denominator of a multiple of 10 or 25

1

It's 43 days to my birthday



How many weeks and days is that

Weeks

Days

1 mark



5M4: Solve problems involving converting between units of time

2



It's $2 \frac{1}{2}$ days to my birthday

How many hours is that

hr

1 mark



5M4: Solve problems involving converting between units of time

3 In a school the morning lessons lasted $2\frac{1}{2}$ hours.

We watched a video for 28 minutes.

How much time was left?

hrs min

1 mark

5M4: Solve problems involving converting between units of time

4



I slept for $8\frac{1}{4}$ hours last night

How many minutes is that

min

1 mark

5M4: Solve problems involving converting between units of time

5 What is

3 hour 45 minutes + 2 hours 46 minutes

hrs min

1 mark

5M4: Solve problems involving converting between units of time

6

I am 9 years 2 months old



.. and I am 6 years 11 months old



What's the difference between our ages
in years and months

yr mn

1 mark

5M4: Solve problems involving converting between units of time

7

We left the house to drive to Nanny's at 10:25 am.
The drive took 70 minutes and we arrived 45
minutes before lunch.
What time did we eat lunch



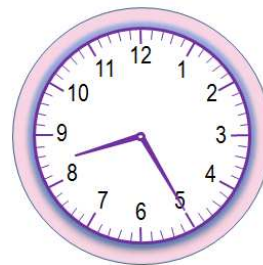
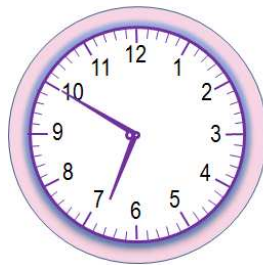
hr min

1 mark

5M4: Solve problems involving converting between units of time

8

What's the difference between these two times



hr min

1 mark

5M4: Solve problems involving converting between units of time

1 Convert the units

$$2 \text{ km} = \boxed{} \text{ metres}$$

$$10 \text{ km} = \boxed{} \text{ metres}$$

$$0.5 \text{ km} = \boxed{} \text{ metres}$$

$$\frac{1}{10} \text{ km} = \boxed{} \text{ metres}$$

4 marks

5M5: Convert between different units of metric measure [e.g.: kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]

2 Convert the units

$$2 \text{ m} = \boxed{} \text{ centimetre}$$

$$1.5 \text{ m} = \boxed{} \text{ centimetre}$$

$$0.25 \text{ m} = \boxed{} \text{ centimetre}$$

$$\frac{1}{5} \text{ m} = \boxed{} \text{ centimetre}$$

4 marks

5M5: Convert between different units of metric measure [e.g.: kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]

3 Convert the units

$$9 \text{ cm} = \boxed{} \text{ millimetre}$$

$$1.5 \text{ cm} = \boxed{} \text{ millimetre}$$

$$0.3 \text{ cm} = \boxed{} \text{ millimetre}$$

$$\frac{1}{4} \text{ cm} = \boxed{} \text{ millimetre}$$

4 marks

5M5: Convert between different units of metric measure [e.g.: kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]

4 Convert the units

$$2 \text{ kg} = \boxed{} \text{ grams}$$

$$1.5 \text{ kg} = \boxed{} \text{ grams}$$

$$0.75 \text{ kg} = \boxed{} \text{ grams}$$

$$\frac{1}{100} \text{ kg} = \boxed{} \text{ grams}$$

4 marks

5M5: Convert between different units of metric measure [e.g.: kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]

5 Convert the units

3 litre = millilitre

1.25 litre = millilitre

0.75 litre = millilitre

$\frac{1}{10}$ litre = millilitre

4 marks

5M5: Convert between different units of metric measure [e.g.: kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]



1 Convert the units

1 metre = inches

1 gallon = litres

1 kg = pounds

1 inch = centimetres

4 marks

5M6: understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints

2 What is 10 inches approximately

40 cm

25cm

What is 5 kg approximately

11 pound

11 stone

What is 5 cm approximately

2 inches

1 inch

3 marks

5M6: understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints

3

What is 1 foot approximately

30 cm

10cm

What is 9 litres approximately

2 gallon

1 gallon

What is 5 cm approximately

2 inches

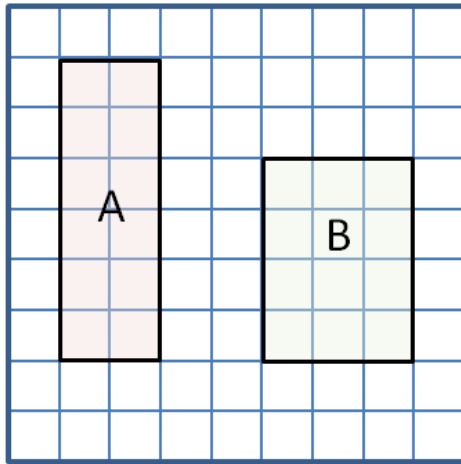
1 inch

3 marks

5M6: understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints

1

Poppy said the perimeter of shape A was bigger than shape B on the 1cm squared grid. Was she correct?



Perimeter of A= cm

Perimeter of B= cm

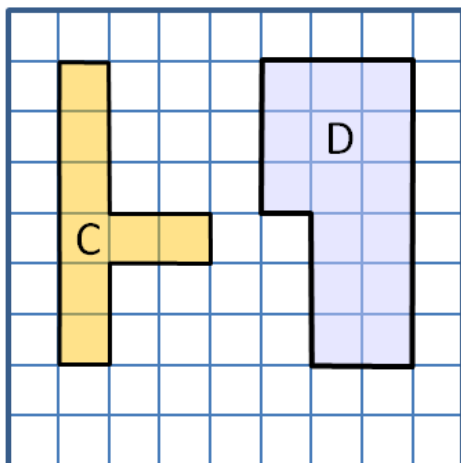
Is Poppy correct (Y/N)

3 marks

5M7a: measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

2

Henry said the perimeter of shape D was twice as big as shape C on the 1cm squared grid. Was he correct?



Perimeter of C= cm

Perimeter of D= cm

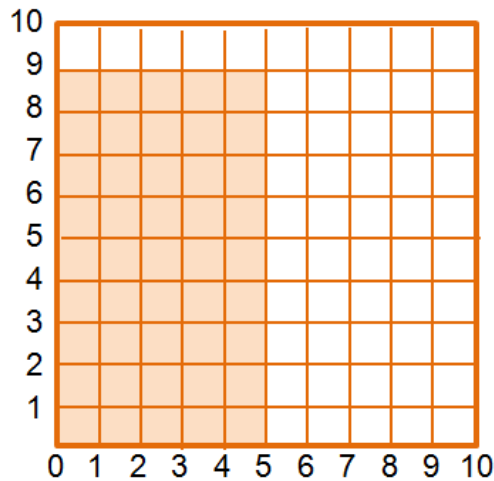
Is Henry correct (Y/N)

3 marks

5M7a: measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

3

Work out the perimeter of this shape on the cm grid

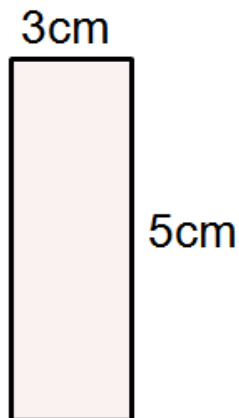


1 mark

5M7a: measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

4

Work out the perimeter of this rectangle

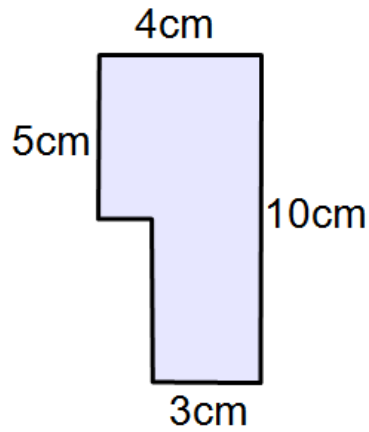


1 mark

5M7a: measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

5

Work out the perimeter of this shape



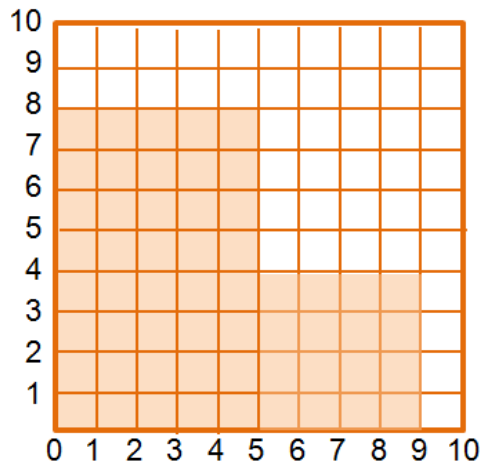
cm

1 mark

5M7a: measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

6

Work out the perimeter of this shape



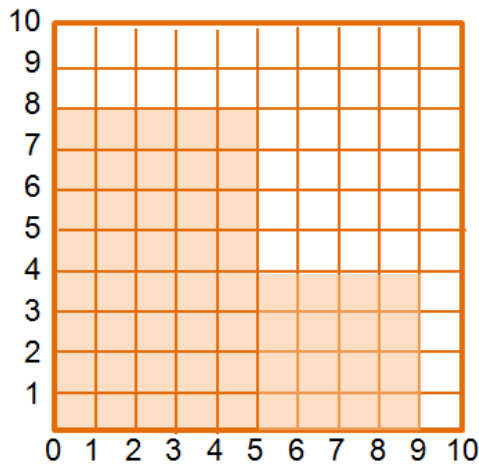
cm

1 mark

5M7a: measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

1

Work out the area of this shape

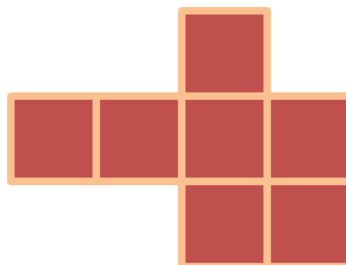


1 mark

5M7b: calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes

2

Work out the area of this shape in square units



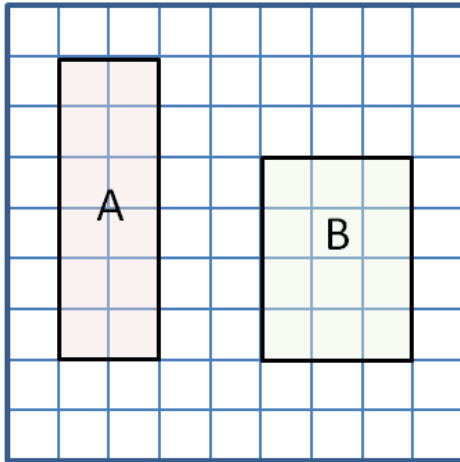
square units

1 mark

5M7b: calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes

3

Poppy said the area of shape A was bigger than shape B. Was she correct?



Area of A= cm²

Area of B= cm²

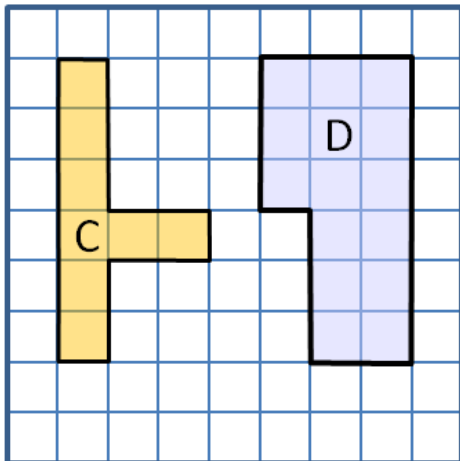
Is Poppy correct (Y/N)

1 mark

5M7b: calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes

4

Henry said the area of shape D was twice as big as shape C. Was he correct?



Area of C= cm²

Area of D= cm²

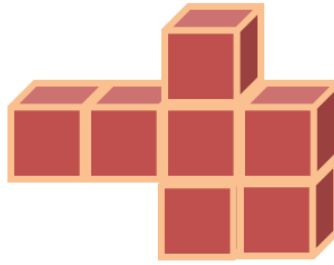
Is Henry correct (Y/N)

1 mark

5M7b: calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes

1

Work out the volume of this shape in square units



square units

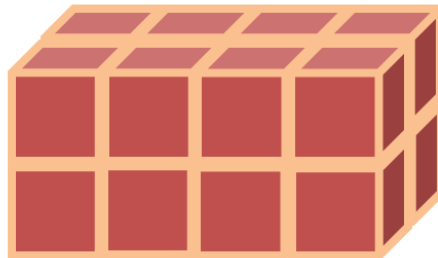


1 mark

5M8: Estimate volume [e.g.: using 1cm^3 blocks to build cuboids (including cubes)] and capacity [e.g.: using water]

2

What is the volume of this shape made with 1cm^3 cubes



cm^3

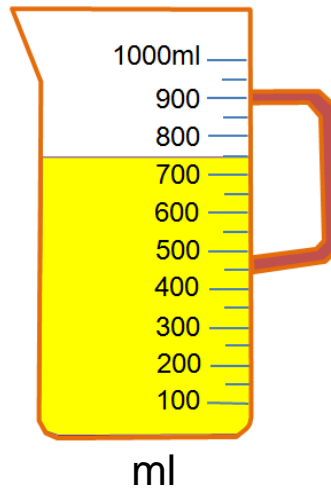


1 mark

5M8: Estimate volume [e.g.: using 1cm^3 blocks to build cuboids (including cubes)] and capacity [e.g.: using water]

3

Henry needs one litre of orange
What volume of liquid does he need to add to the jug

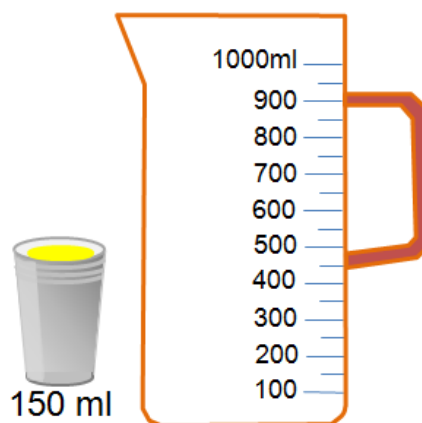


1 mark

5M8: Estimate volume [e.g.: using 1cm^3 blocks to build cuboids (including cubes)] and capacity [e.g.: using water]

4

Henry needs one litre of orange
Estimate how many cups of 150ml he needs to pour into the jug



1 mark

5M8: Estimate volume [e.g.: using 1cm^3 blocks to build cuboids (including cubes)] and capacity [e.g.: using water]

1

The area of this rectangle is 140 cm^2



12.5cm



cm

What is the length of the missing side

1 mark

5G2a Use the properties of rectangles to deduce related facts and find missing lengths and angles

A POLYGON is a shape with several sides

So an OCTAGON has 8 sides.
OCT means 8 like for an octopus



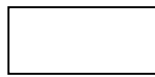
So shapes like a triangle or a square are polygons

Yes and if the sides are the same length and all angles are equal it's a Regular Polygon

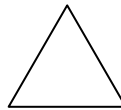
I've marked these shapes with an R or IR for regular or irregular



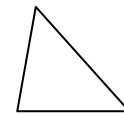
R



IR



R

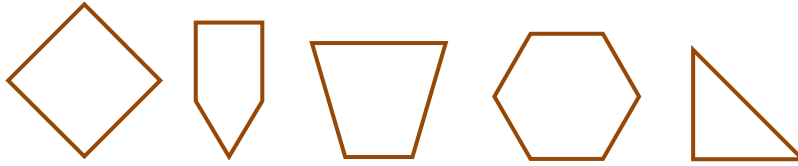


IR

5G2b Distinguish between regular and irregular polygons based on reasoning about equal sides and angles

2

Your turn now. Look at these shapes and mark regular polygons with an R and irregular ones with an IR



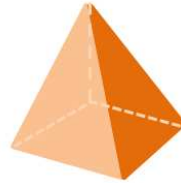
1 mark

5G2b Distinguish between regular and irregular polygons based on reasoning about equal sides and angles



1

I saw a 3-D shape which looked like a circle.
Which one was it



1 mark



5G3b: Identify 3-D shapes including cubes and other cuboids, from 2-D representations

2

I saw a 3-D shape which looked like a pentagon
Which one was it



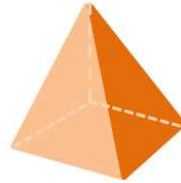
1 mark



5G3b: Identify 3-D shapes including cubes and other cuboids, from 2-D representations

3

I saw a 3-D shape which looked like a triangle.
Which ones could it be



1 mark



5G3b: Identify 3-D shapes including cubes and other cuboids, from 2-D representations

4

This 3-D shape has two circular faces.
Which one was it



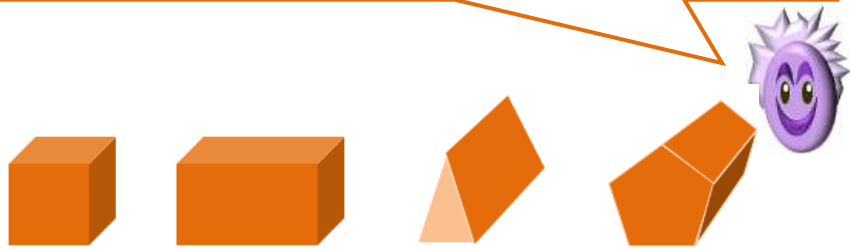
1 mark



5G3b: Identify 3-D shapes including cubes and other cuboids, from 2-D representations

5

I made 3-D shape with a triangular base
Which one was it



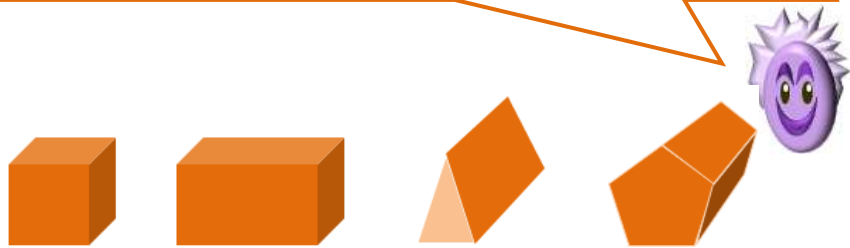
1 mark

5G3b: Identify 3-D shapes including cubes and other cuboids, from 2-D representations



6

This 3-D shape looked like two rectangles
Which one was it



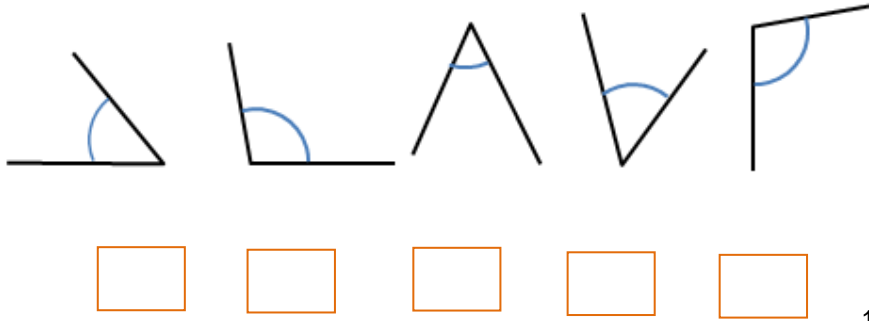
1 mark

5G3b: Identify 3-D shapes including cubes and other cuboids, from 2-D representations



1

Mark each angle as acute (A) or Obtuse (O)

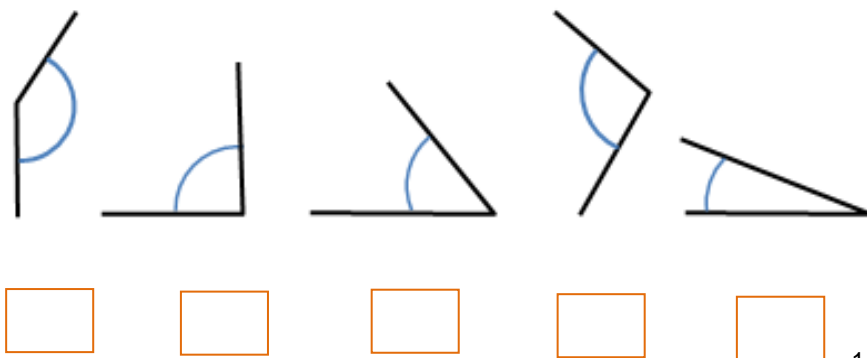


1 mark

5G4a: Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

2

Order these angles by size with 1 the smallest

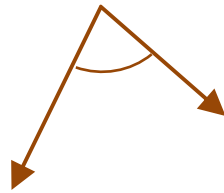


1 mark

5G4a: Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

2

What type of angle is this



acute

reflex

obtuse

right

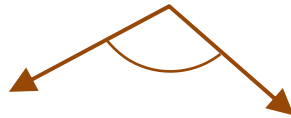
1 mark



5G4a: Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

3

What type of angle is this



acute

reflex

obtuse

right

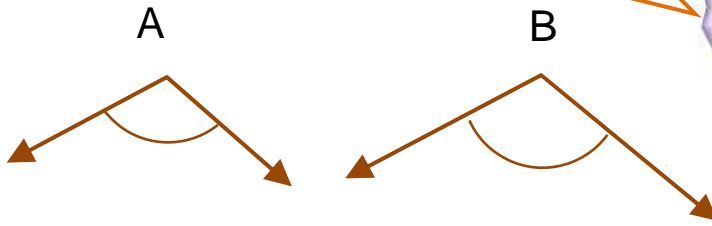
1 mark



5G4a: Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

4

What can you tell about these angles



They are the same size

B is bigger than A

A is bigger than B

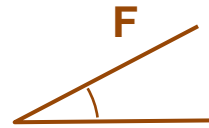
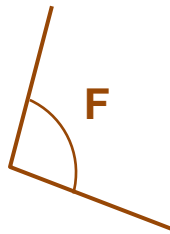
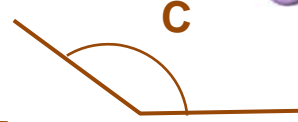
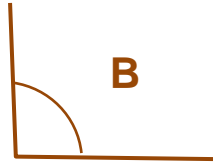
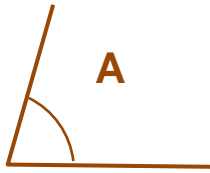
1 mark



5G4a: Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

5

Sort these angles into obtuse or acute



acute

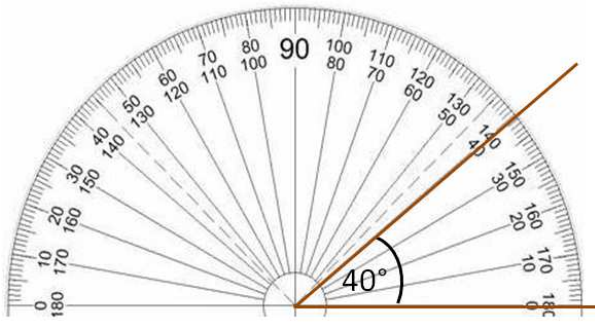
obtuse

2 marks

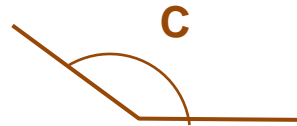
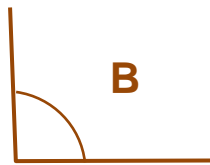
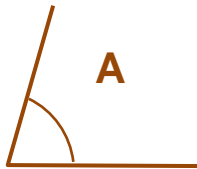
5G4a: Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

6

Measure angles in degrees with a protractor like this



Can you measure these angles



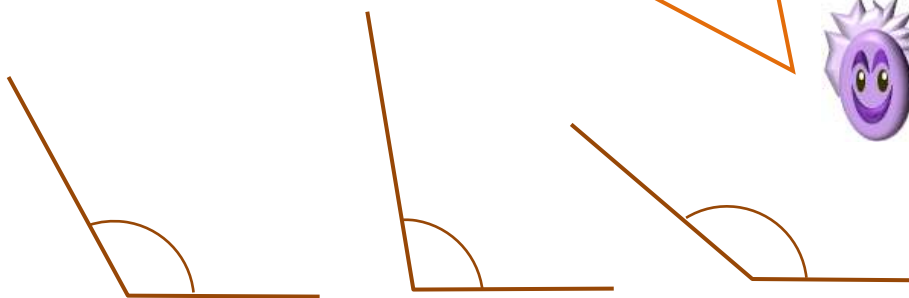
3 marks



5G4a: Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

7

Measure and match the angles to the degrees



120°

140°

100°

110°

150°

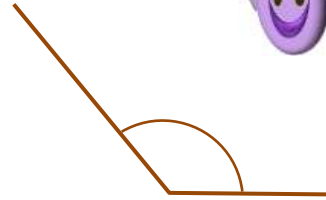
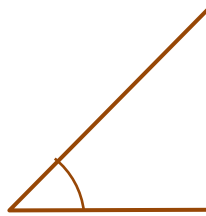
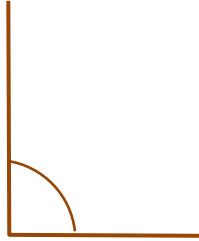
3 marks



5G4a: Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

8

Estimate and match the angles to the degrees



45°

60°

90°

130°

160°

180°

3 marks



5G4a: Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles

1

Calculate the missing angles

? 60° ? 75° ? 55°

3 marks

5G4b: Identify: angles at a point and one whole turn (total 360°)
angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)
other multiples of 90°

2

Calculate the missing angles

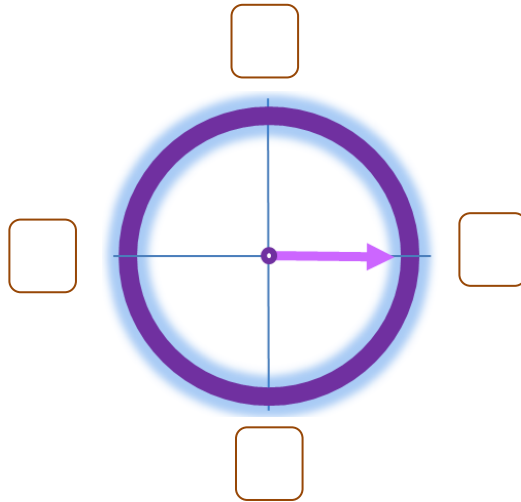
? 71° ? 82° 136° ?

3 marks

5G4b: Identify: angles at a point and one whole turn (total 360°)
angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)
other multiples of 90°

3

Where is the pointer after moving 270° clockwise (✓)



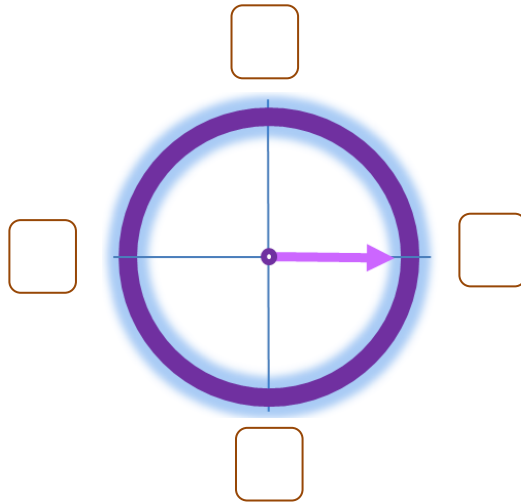
1 mark



5G4b: Identify: angles at a point and one whole turn (total 360°)
angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)
other multiples of 90°

4

Where is the pointer after moving 180° anti-clockwise (✓)



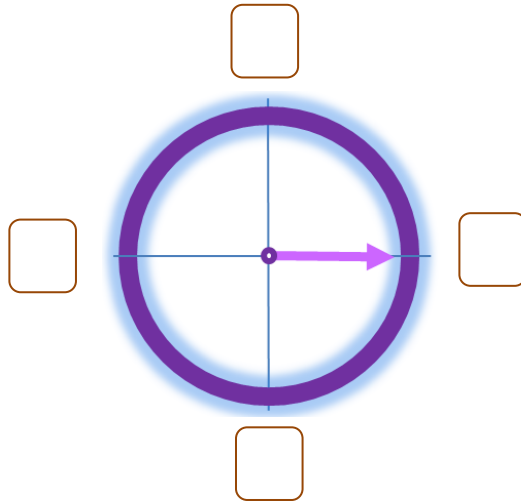
1 mark



5G4b: Identify: angles at a point and one whole turn (total 360°)
angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)
other multiples of 90°

5

Where is the pointer after moving 360° anti-clockwise (✓)



1 mark

5G4b: Identify: angles at a point and one whole turn (total 360°)
angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)
other multiples of 90°

1

On the line draw an angle of 60° at the point using a protractor, pencil and ruler



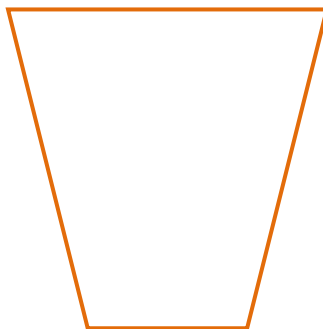
1 mark



5G4C: Draw given angles and measure them in degrees ($^\circ$)

2

Measure the angles in these shapes and write them in



Add the angles up in each shape.
What do you notice?

5G4C: Draw given angles and measure them in degrees ($^\circ$)

3

On the line draw an angle of 120° at the point using a protractor, pencil and ruler



1 mark



5G4C: Draw given angles and measure them in degrees ($^\circ$)

4

Draw a square sides 5cm with angles of 90° using a protractor, pencil and ruler



1 mark



5G4C: Draw given angles and measure them in degrees ($^\circ$)

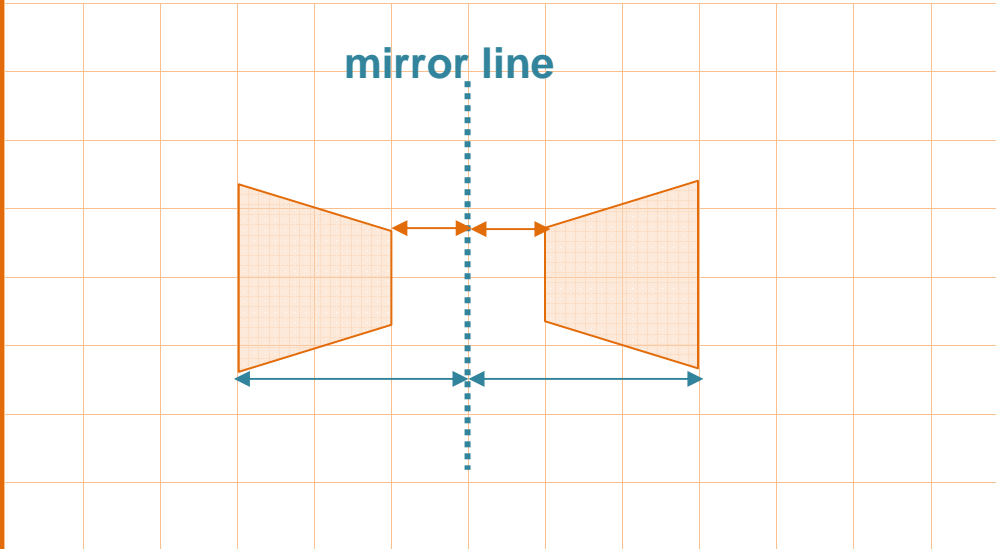
1

If I reflect this shape in the mirror line it looks like this



What do you notice

1 mark



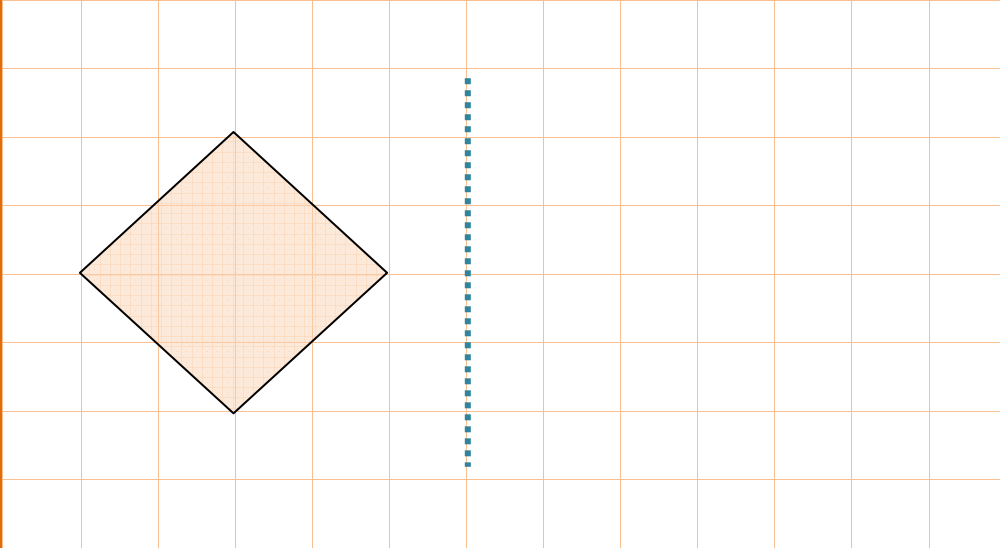
5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

2

Draw the reflection of this shape in the mirror line



1 mark



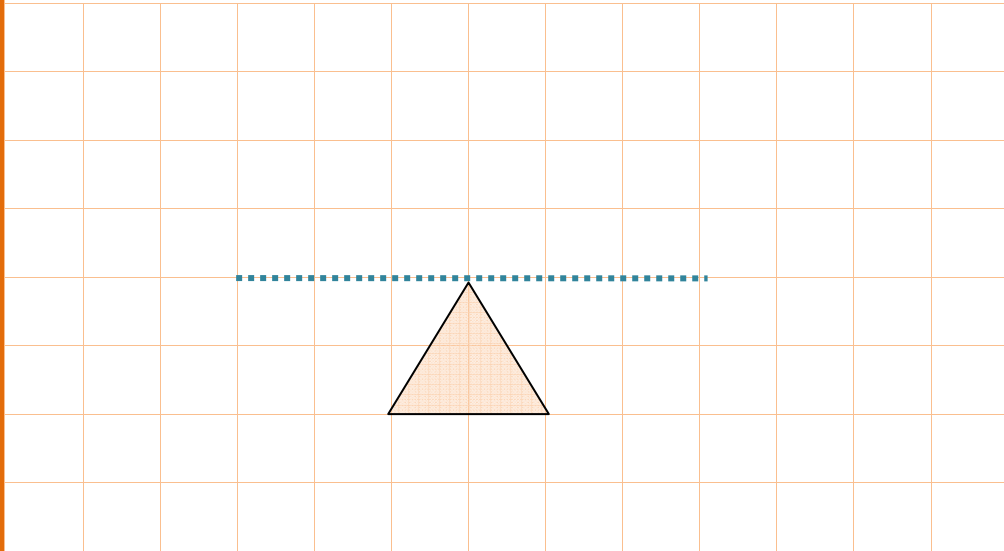
5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

3

Draw the reflection of this shape in the mirror line



1 mark



5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

4

Draw the reflection of this shape in the mirror line



1 mark

5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

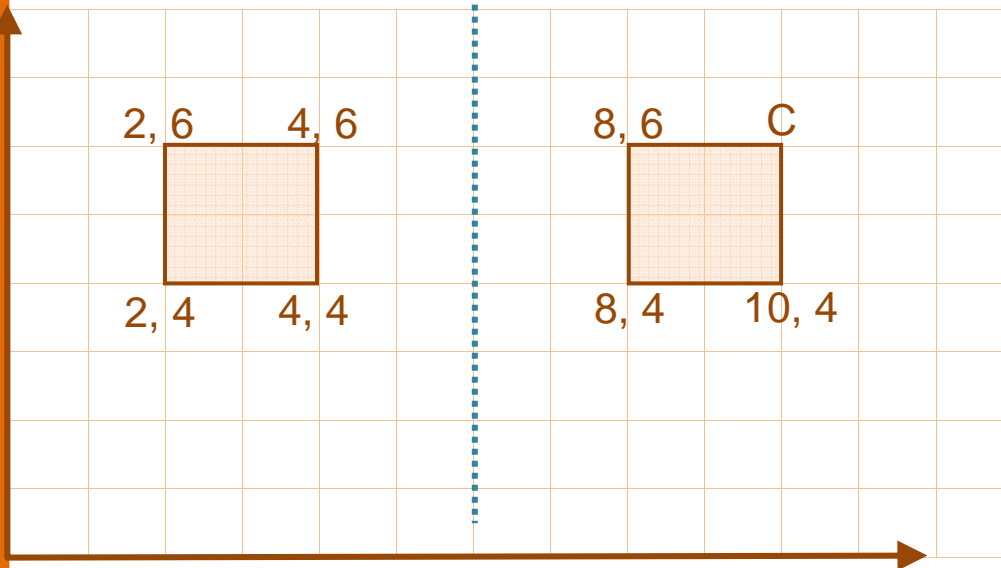
5

Using the reflection find the missing co-ordinate C



(,)

1 mark



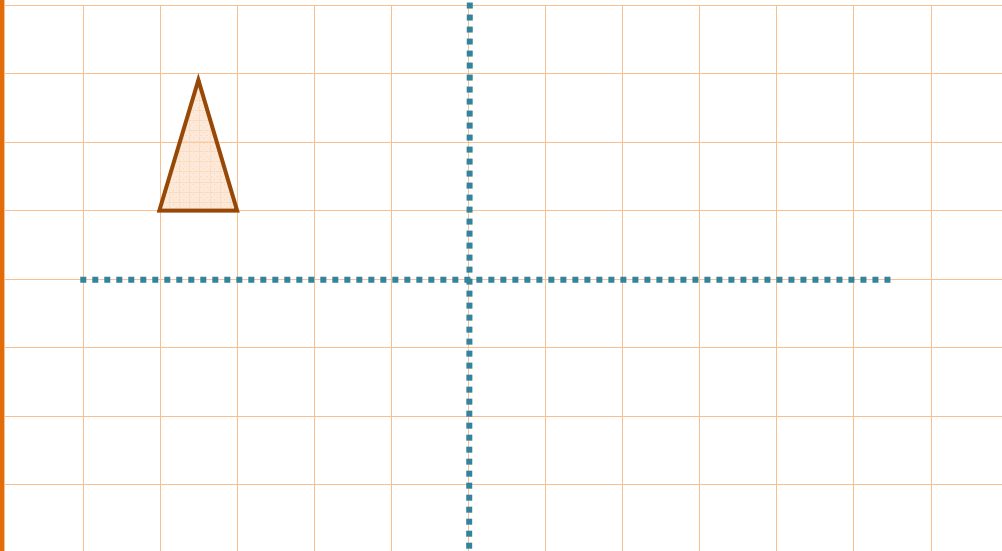
5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

6

Draw the reflection of this shape in the two mirror line



1 mark



5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

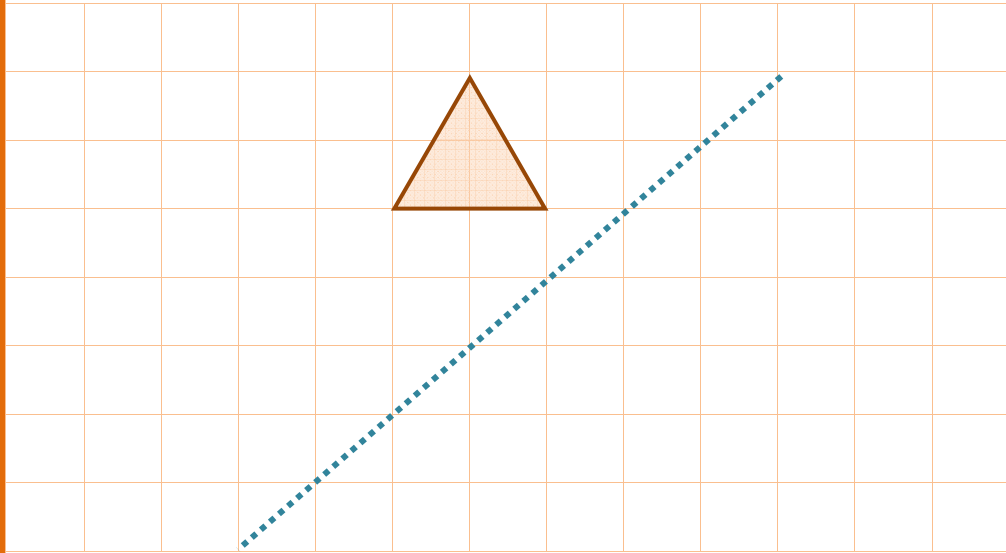


7

Draw the reflection of this shape in the diagonal mirror line



1 mark



5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

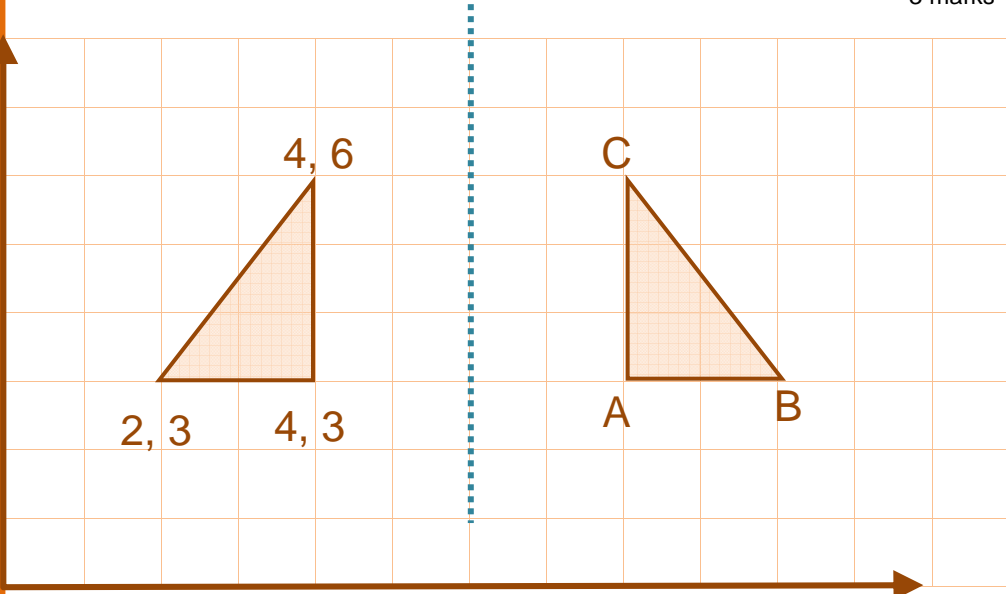
8

Using the reflection find the missing co-ordinates A, B and C



(,) (,) (,)

3 marks



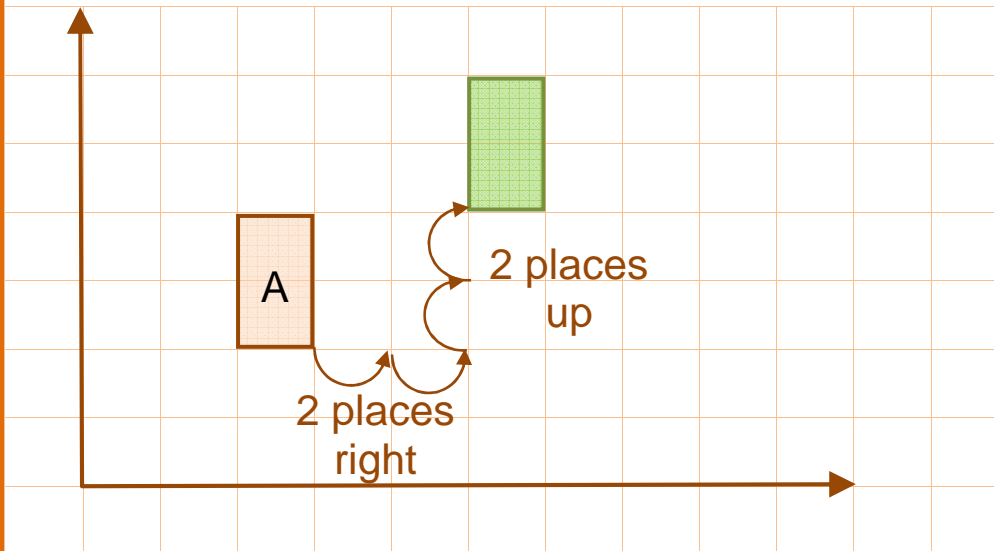
5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed



If I move a shape on a grid it's called a translation



Shape A has been translated 2 places right.
Then two places up.



5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

10

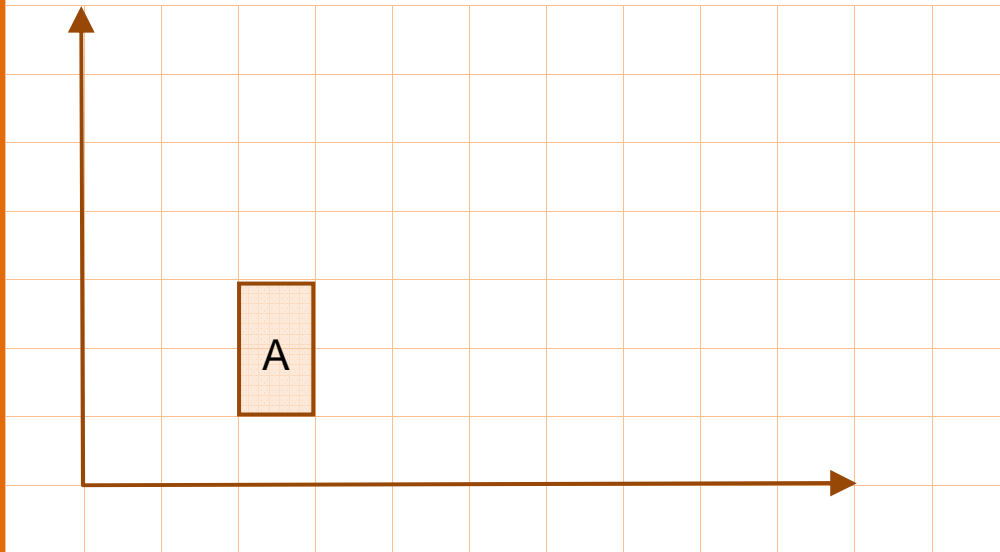
Translate the shape 2 units up and 3 units right



I'll get the same position if I do 3 units right then 2 units up.



1 mark



5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

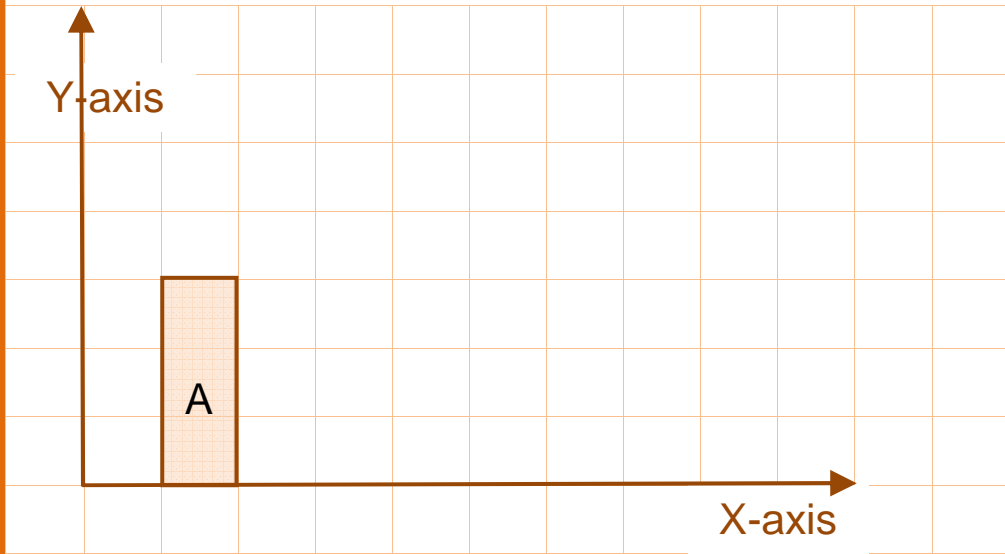
The grid has a Y-axis upwards vertically and a X-axis across horizontally
 So translation can be explained with those.



OK so translate the shape 5 units in the X-axis right and 4 units in the Y-axis up



1 mark



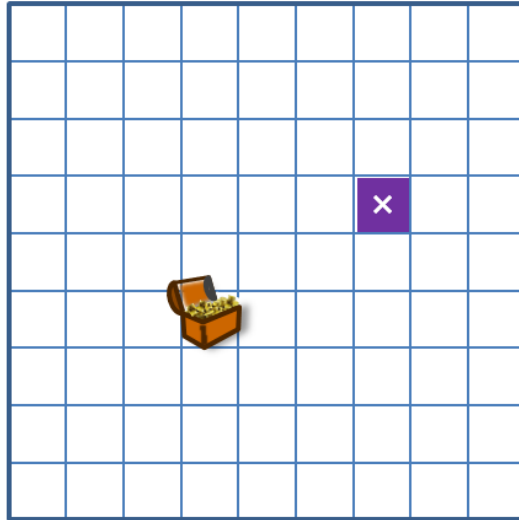
5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed



12

Poppy is standing at 

Describe how see gets to the treasure as if she was doing a translation



Translation in X-axis is

Translation in Y-axis is

1 mark

5P2: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

1

Look at this bus time table



Luton Galaxy	0730	0800	0830
Stanton Road	0737	0807	0837
Portland Road	0745	0815	0844
Houghton Regis	0747	0816	0846
Toddington	0755	0825	0855



Which clock shows the time to catch the earliest bus from Portland Road



1 mark

5S1: Complete, read and interpret information in tables, including timetables

2

Look at this bus time table



Luton Galaxy	0730	0800	0830
Stanton Road	0737	0807	0837
Portland Road	0745	0815	0844
Houghton Regis	0747	0816	0846
Toddington	0755	0825	0855



How long does it take to go from
Luton Galaxy to Toddington

min

1 mark

5S1: Complete, read and interpret information in tables, including timetables

3

Look at this bus time table



Luton Galaxy	0730	0800	0830
Stanton Road	0737	0807	0837
Portland Road	0745	0815	0845
Houghton Regis	0747	0817	0847
Toddington	0755	0825	0855



How often do the buses go from Stanton Road to Toddington

min

1 mark

5S1: Complete, read and interpret information in tables, including timetables

4

Look at this bus time table



Luton Galaxy	0730	0800	0830
Stanton Road	0737	0807	0837
Portland Road	0745	0815	0845
Houghton Regis	0747	0817	0847
Toddington	0755	0825	0855



How long does it take to go from
Portland Road to Houghton Regis

min

1 mark

5S1: Complete, read and interpret information in tables, including timetables

5

I missed the 0745 from Portland Road



Luton Galaxy	0730	0800	0830
Stanton Road	0737	0807	0837
Portland Road	0745	0815	0845
Houghton Regis	0747	0817	0847
Toddington	0755	0825	0855



What time is her next bus?

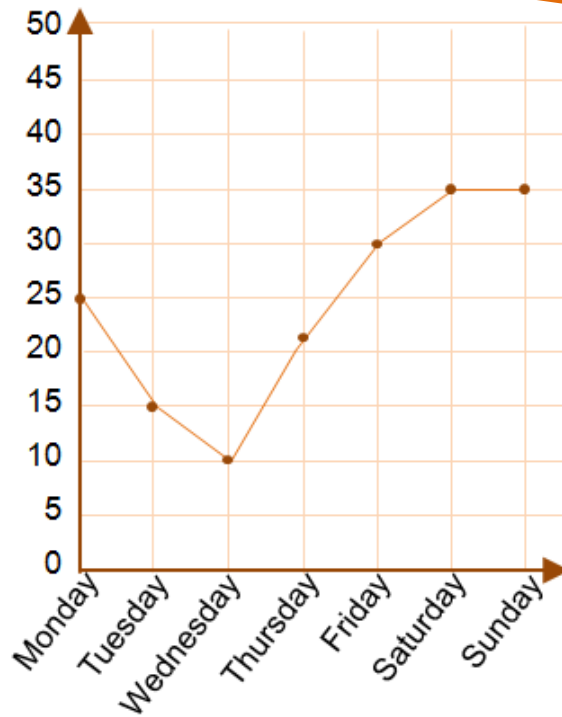


1 mark

5S1: Complete, read and interpret information in tables, including timetables

1

I kept a log of Mummy's emails this week



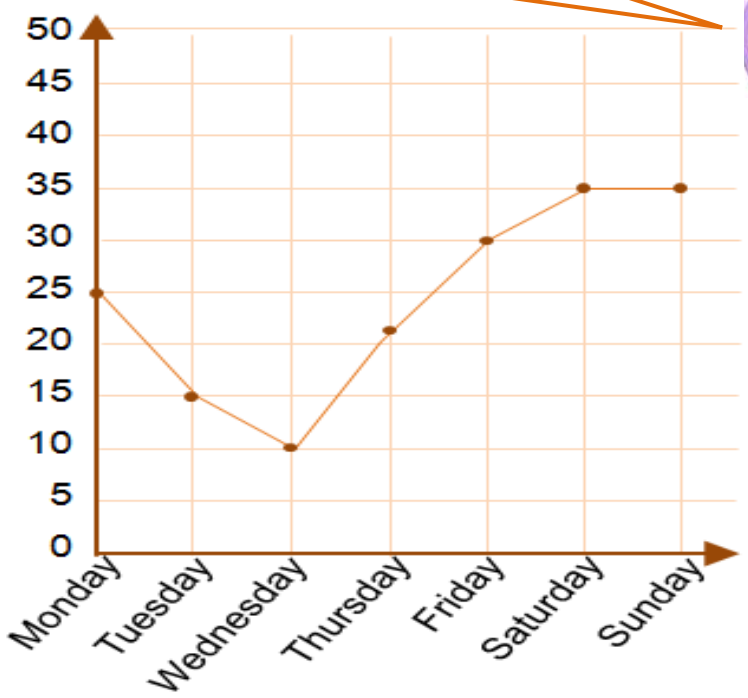
How many did she get on Monday and Tuesday

1 mark

5S2: Solve comparison, sum and difference problems using information presented in a line graph

2

I kept a log of Mummy's emails this week



How many more did she get on Saturday than on Friday



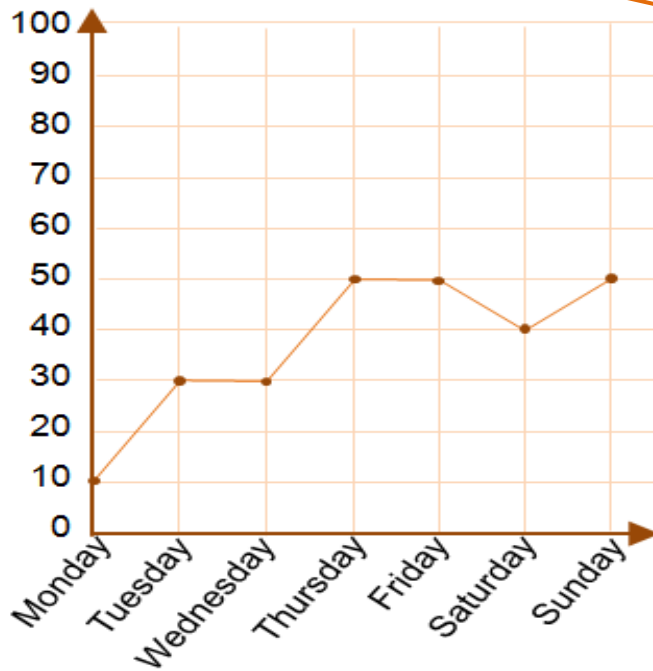
1 mark



5S2: Solve comparison, sum and difference problems using information presented in a line graph

3

I kept a log of Daddy's work emails this week



How many did he get for the entire week



1 mark

5S2: Solve comparison, sum and difference problems using information presented in a line graph

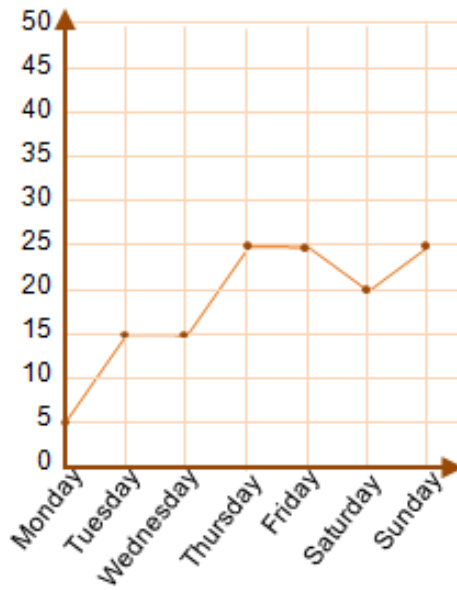
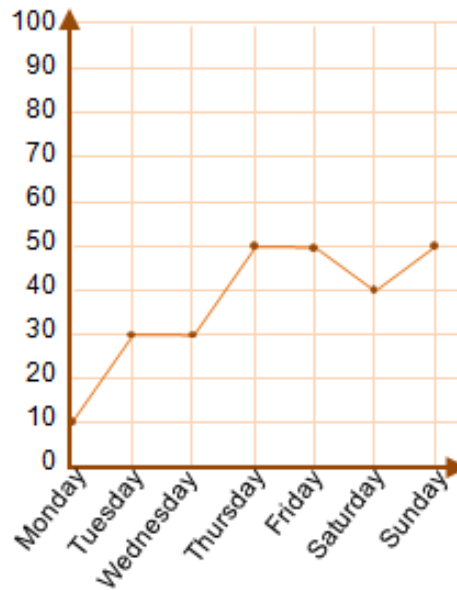


4

Which line graph show the text messages information in the table



Day	Text messages
Monday	5
Tuesday	15
Wednesday	15
Thursday	25
Friday	25
Saturday	20
Sunday	25



1 mark



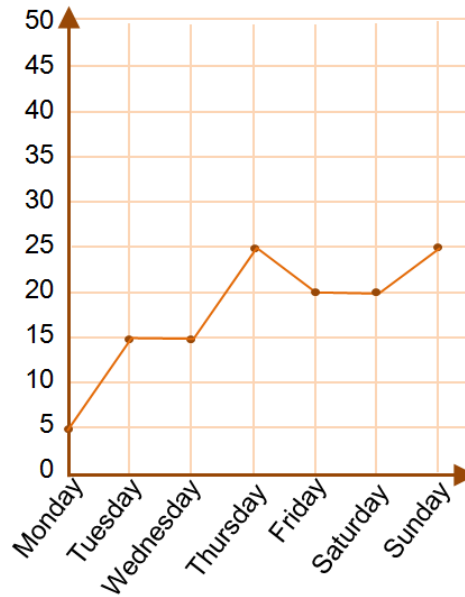
5S2: Solve comparison, sum and difference problems using information presented in a line graph

5

One of the point on the line graph is not the same as the data table.



Day	Text messages
Monday	5
Tuesday	15
Wednesday	15
Thursday	25
Friday	25
Saturday	20
Sunday	25



Which day is wrong on the graph

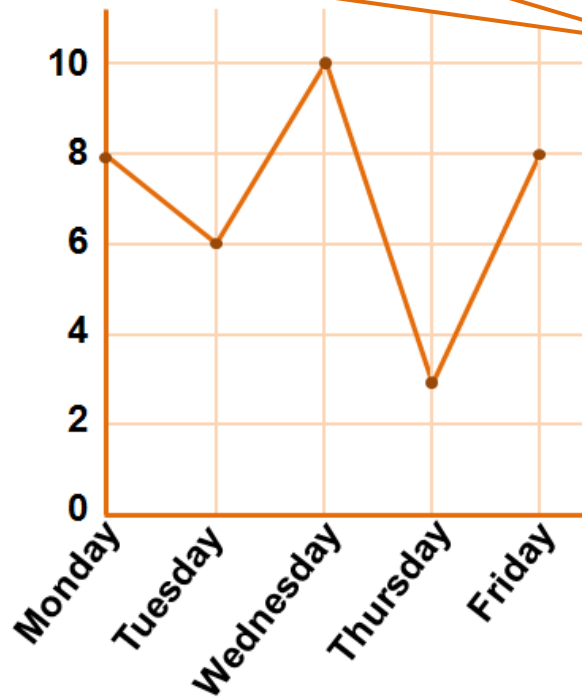
1 mark



5S2: Solve comparison, sum and difference problems using information presented in a line graph

6

This line graph show how many in my class had packed lunch



Which day had the most packed lunches



What was the difference between packed lunches on Monday and Friday

1 mark



1 mark



How many had packed lunches on Thursday



1 mark



5S2: Solve comparison, sum and difference problems using information presented in a line graph

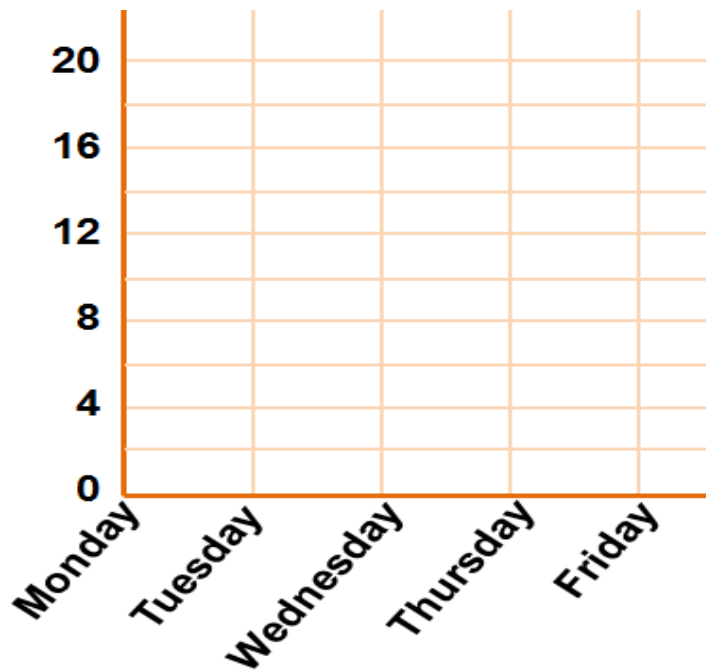
7

Convert the information in the table to a line graph showing how many in my class had packed lunch



be careful with these ones

Day	M	T	W	T	F
Frequency	12	10	18	6	16



1 mark

5S2: Solve comparison, sum and difference problems using information presented in a line graph