

GCSE
MATHEMATICS (8300)
FOUNDATION
Ratio, proportion and rates of change

Total number of marks: 35 per optional item

Q6

The cost of 3 calendars is £18

Work out the cost of 5 calendars.

(Total 2 marks)

Q11a

Here is a list of ingredients needed to make 6 pancakes.

Flour	120 grams
Eggs	2
Milk	210 millilitres

(a) Complete the list of ingredients needed to make 9 pancakes.

Flour	_____
Eggs	_____
Milk	_____

(Total 3 marks)

Q12

A bottle contains 1.5 litres of water.

650 millilitres of the water is poured into a jug.

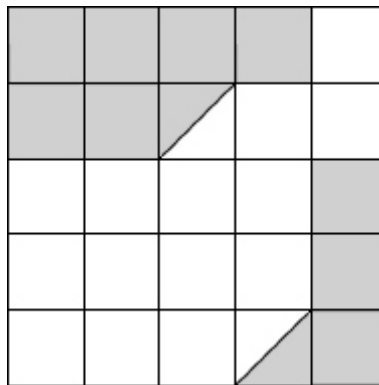
How much water is left in the bottle?

State the units of your answer.

(Total 3 marks)

Q9

What percentage of this shape is shaded?



Answer _____ %

(Total 2 marks)

Q13

The cost of 5 kg of potatoes is £3.20

The cost of $\frac{1}{2}$ kg of carrots is 29p

Work out the **total** cost of 12 kg of potatoes and $1\frac{1}{2}$ kg of carrots.

(Total 3 marks)

Q17a

(a) Simplify fully 56 : 24

Answer _____ : _____

(Total 2 marks)

Q9

In this question, use

1 foot = 12 inches

1 inch = 2.5 centimetres

Change 5 feet 8 inches to centimetres.

Answer = _____ cm

(Total 3 marks)

Q19a

- (a) Divide 120 in the ratio 1 : 4

Answer _____ : _____

(Total 2 marks)

Q18a

Mo played 30 games of chess.

He won 18 of these games.

- (a) What fraction of the games did he win?

Give your answer in its simplest form.

(Total 2 marks)

Q18b

Mo played 30 games of chess.

He won 18 of these games.

- (b) He played 20 more games.

He had then won 64% of **all** of his games.

How many of the 20 games did he win?

(Total 3 marks)

Q22

Anna plays a computer game.

Each game is a win or a loss.

She wins three quarters of her first 24 games.

She then wins her next 12 games.

For all 36 games, work out the ratio wins : losses

Give your answer in its simplest form.

Answer _____ :

(Total 3 marks)

Q27

$$x : y = 1 : 3$$

Circle the correct equation.

$$y = 3x$$

$$y = \frac{x}{3}$$

$$y = x - 2$$

$$y = x + 2$$

(Total 1 mark)

Q22

$$x : y = 7 : 4$$

$$x + y = 88$$

Work out the value of $x - y$

(Total 3 marks)

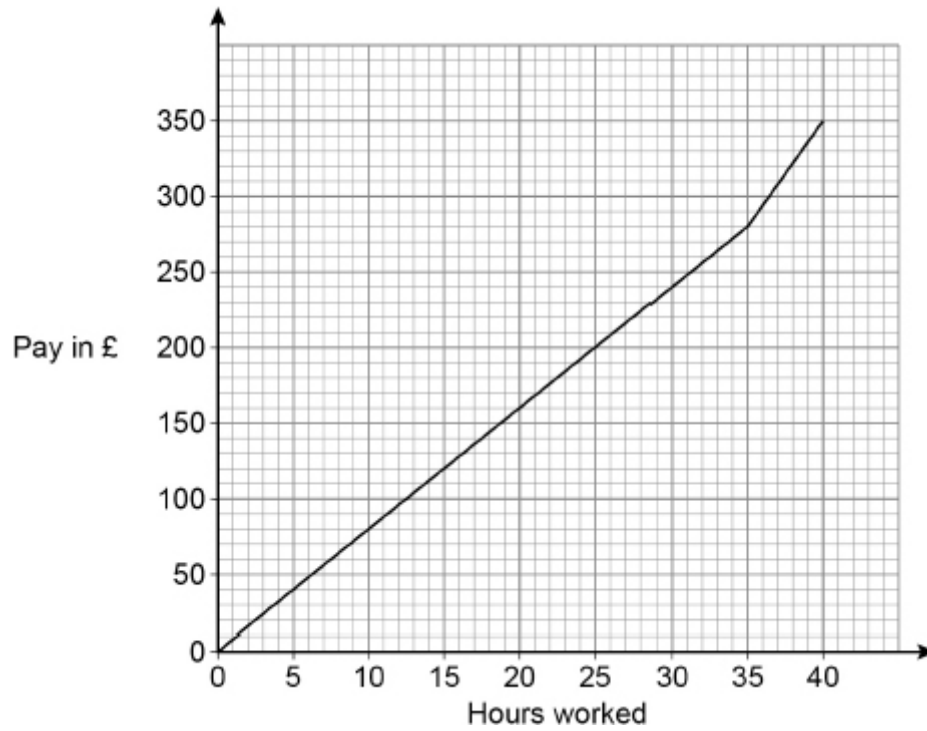
Q29

The graph shows how much Molly is paid for working for up to 40 hours.

She receives

a basic rate of pay for the first 35 hours worked

a higher rate of pay for the next 5 hours worked.



Work out the difference between the higher rate of pay and the basic rate of pay.

Give your answer in £ per hour.

Answer £ _____ per hour

(Total 3 marks)