CALC F

GCSE Mathematics · Foundation Tier

40 marks · 45 minutes · Calculator

Name ..... **Class** .....

Answer all questions. Show all your working. Calculators may be used. Diagrams are NOT accurately drawn.

1 Simplify $y \times y \times y$

.....

(Total for Question 1 is 1 mark)

2 Work out $\sqrt{6.25} + 2.4^3$

Write down all the figures on your calculator display.

.....

(Total for Question 2 is 2 marks)

3 Increase £240 by 15%

£.....

(Total for Question 3 is 2 marks)

4 $P = 2l + 2w$

Work out the value of P when $l = 7.5$ and $w = 3.2$

$P =$ .....

(Total for Question 4 is 2 marks)

5 Write 360 as a product of its prime factors.

.....

(Total for Question 5 is 2 marks)

6 **(a)** Work out the size of each exterior angle of a regular octagon.

..... °

(1)

Each interior angle of a regular polygon is 156°

(b) Work out the number of sides the polygon has.

.....

(2)

(Total for Question 6 is 3 marks)

7 The length of a pencil is L cm.

$L = 7.4$ correct to 1 decimal place.

Complete the error interval for L.

..... $\leq L <$ .....

(Total for Question 7 is 2 marks)

8 A shop sells the same shampoo in two sizes.

Size	Small	Large
Volume	250 ml	400 ml
Price	£2.85	£4.40

Which size is the better value for money?

You must show how you get your answer.

(Total for Question 8 is 3 marks)

9 Amy spins a biased spinner 200 times. It lands on red 46 times.

(a) Write down an estimate for the probability that the spinner lands on red.

.....

(1)

Amy is going to spin the spinner 500 more times.

(b) Work out an estimate for the number of times it will land on red.

.....

(1)

(Total for Question 9 is 2 marks)

10 The diagram shows a triangle. All angles are measured in degrees.

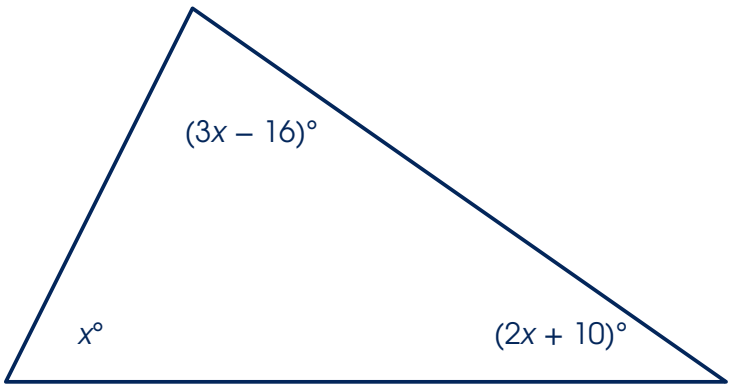


Diagram NOT accurately drawn

Work out the size of the largest angle in the triangle.

..... °

(Total for Question 10 is 3 marks)

11 Make t the subject of the formula $v = u + 5t$

$t =$ .....

(Total for Question 11 is 2 marks)

12 The table shows information about the time, t minutes, 30 students took to get to school.

Time (t minutes)	Frequency
$0 < t \leq 10$	4
$10 < t \leq 20$	9
$20 < t \leq 30$	12
$30 < t \leq 40$	5

Work out an estimate for the mean time.

..... minutes

(Total for Question 12 is 3 marks)

13 Jake invests £3500 in a savings account for 4 years.

The account pays 2.5% compound interest per year.

Jake says, "After 4 years I will have more than £3900 in my account."

Is Jake correct? You must show how you get your answer.

(Total for Question 13 is 3 marks)

14 Sam earns £1840 each month.

He spends $\frac{3}{8}$ of this on rent and 15% of it on food.

How much of the £1840 does Sam have left?

£.....

(Total for Question 14 is 3 marks)

15 A ladder 4.8 m long leans against a vertical wall on horizontal ground.
The foot of the ladder is 1.4 m from the bottom of the wall.

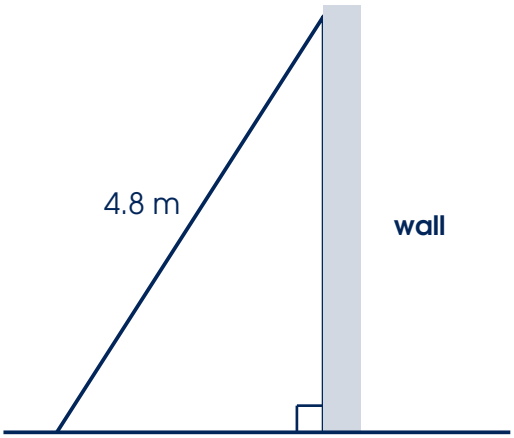


Diagram NOT accurately drawn

The top of the ladder must reach at least 4.5 m up the wall.

Does the ladder reach high enough? You must show your working.

(Total for Question 15 is 3 marks)

16 A metal block is a cuboid measuring 6 cm by 4 cm by 2.5 cm.

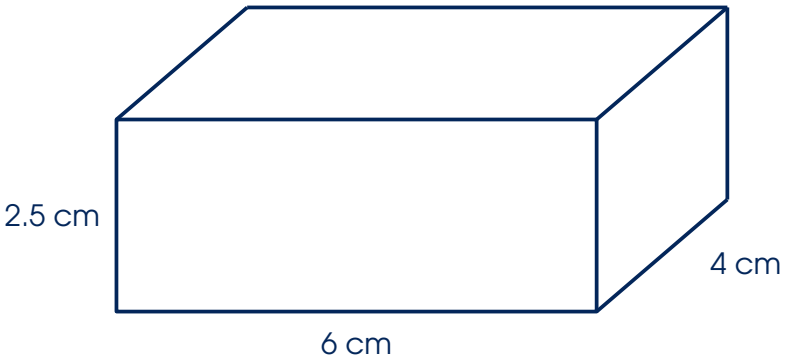


Diagram NOT accurately drawn

The metal has a density of 8.96 g/cm^3.

Blocks like this are packed into a crate. The crate can hold at most 5 kg of blocks.

Work out the greatest number of blocks that can be packed into the crate.

.....

(Total for Question 16 is 4 marks)

TOTAL FOR PAPER IS 40 MARKS