



**Test Papers
Hub.**

GCSE Mathematics (Foundation) Mock 1 Practice Paper 2

Paper 2 — Calculator

Paper 2 · Calculator · 80 marks · 1 hour 30 minutes · 29 questions

How to use this booklet

- You may use a calculator on this paper.
- Answer ALL questions in the spaces provided. You must show all your working: marks are awarded for correct method as well as the final answer.
- Diagrams are not accurately drawn unless otherwise stated. Take $\pi = 3.142$ only if a question tells you to; otherwise use your calculator's π button.
- The total mark for this paper is 80. The marks for each question are shown in brackets. Allow 1 hour 30 minutes.
- Worked solutions follow the paper: every question has step-by-step working, a key takeaway and the topic it tests.

ANSWER ALL QUESTIONS

80 marks · 1 hour 30 minutes

Write your answers in the spaces provided. Show your working. Diagrams are NOT accurately drawn.

Question 1 (2 marks)

A bag contains 6 red counters, 6 blue counters and 2 green counters. A counter is taken at random. Work out the probability that the counter is NOT red.

Answer _____

Question 2 (4 marks)

(a) Write an expression, in terms of x , for the perimeter of the rectangle. Simplify your answer. [2 marks]

Answer _____

(b) The perimeter is 34 cm. Work out the value of x . [2 marks]

Answer _____

Question 3 (3 marks)

Write the ratio 35 cm : 1 m in its simplest form.

Answer _____

Question 4 (2 marks)

Work out $20 - 7 \times 3 + 4$.

Answer _____

Question 5 (2 marks)

At 6 am the temperature in Toronto was -5°C . By noon it had risen by 10°C . By midnight it had fallen by 4°C . Work out the temperature at midnight.

Answer _____ $^{\circ}\text{C}$

Question 6 (2 marks)

$P = 9a + 8b$. Work out the value of P when $a = 8$ and $b = 8$.

Answer _____

Question 7 (2 marks)

A bag holds 15 sweets. $\frac{1}{3}$ of the sweets are red. How many sweets are red?

Answer _____

Question 8 (2 marks)

The exchange rate is $\text{£}1 = 1.25$ dollars. Work out how many pounds you get for 340 dollars.

WORKED SOLUTIONS

Answers & worked solutions

ANSWER ALL QUESTIONS

Question 1 (2 marks) [Probability]

A bag contains 6 red counters, 6 blue counters and 2 green counters. A counter is taken at random. Work out the probability that the counter is NOT red.

Answer: $\frac{4}{7}$

- $P(\text{not red}) = 1 - P(\text{red})$, or add the other colours.
- $P(\text{red}) = \frac{6}{14}$, so $P(\text{not red}) = 1 - \frac{6}{14} = \frac{8}{14}$.
- Simplified: $\frac{4}{7}$.

LOS: Probability — Probability

KEY TAKEAWAY

Probability = favourable $\div$ total; $P(\text{not } A) = 1 - P(A)$; for 'or' with exclusive events, add.

Question 2 (4 marks) [Forming expressions]

(a) Write an expression, in terms of x , for the perimeter of the rectangle. Simplify your answer.

(a) Answer: $(2x + 20)$ cm

- Perimeter = $2 \times \text{length} + 2 \times \text{width} = 2(x + 5) + 2 \times 5$.
- $= 2x + 10 + 10 = 2x + 20$.

(b) The perimeter is 34 cm. Work out the value of x .

(b) Answer: $x = 7$

- Set the expression equal to 34: $2x + 20 = 34$.
- $2x = 34 - 20 = 14$, so $x = 7$.

LOS: Algebra — Forming expressions

KEY TAKEAWAY

Turn words into algebra: 'more than' means add, 'times as' means multiply; then simplify by collecting like terms.

Question 3 (3 marks) [Ratio]

Write the ratio 35 cm : 1 m in its simplest form.

Answer: 7 : 20

- Write both amounts in the SAME unit: 1 m = 100 cm, so the ratio is 35 : 100.
- Divide both numbers by their HCF 5: 7 : 20.

LOS: Ratio, proportion and rates of change — Ratio