



GCSE Mathematics (Foundation) Mock 1 Practice Paper 3

Paper 3 — Calculator

Paper 3 · Calculator · 80 marks · 1 hour 30 minutes · 30 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)

Write down all the factors of 50.

Answer _____

Question 2 (2 marks)

A bag contains 9 red counters, 8 blue counters and 5 green counters. A counter is taken at random. Write down the probability that the counter is blue.

Answer _____

Question 3 (2 marks)

Write the ratio 3 : 21 in the form 1 : n.

Answer _____

Question 4 (2 marks)

At 6 am the temperature in Moscow was -3°C . By noon it had risen by 10°C . By midnight it had fallen by 8°C . Work out the temperature at midnight.

Answer _____ °C

Question 5 (2 marks)

$v = u + at$. Work out v when $u = 3$, $a = 4$ and $t = 7$.

Answer _____

Question 6 (2 marks)

(a) Write down the next two terms. [1 mark]

Answer _____

(b) Write down the rule for continuing the sequence. [1 mark]

Answer _____

Question 7 (3 marks)

A prize of £112 is shared between three people in the ratio 1 : 2 : 5. Work out the largest share.

Answer _____ £

WORKED SOLUTIONS

Answers & worked solutions

ANSWER ALL QUESTIONS

Question 1 (2 marks) [Factors, multiples and primes]

Write down all the factors of 50.

Answer: 1, 2, 5, 10, 25, 50

- A factor divides exactly into the number. Work in pairs: 1×50 , then try 2, 3, 4, ... up to about $\sqrt{50}$.
- $1 \times 50 = 50$
- $2 \times 25 = 50$
- $5 \times 10 = 50$
- List them in order: 1, 2, 5, 10, 25, 50.

LOS: Number — Factors, multiples and primes

KEY TAKEAWAY

Find factors in pairs ($1 \times n$, $2 \times \frac{n}{2}$, ...) so you do not miss any.

Question 2 (2 marks) [Probability]

A bag contains 9 red counters, 8 blue counters and 5 green counters. A counter is taken at random. Write down the probability that the counter is blue.

Answer: $\frac{4}{11}$

- Probability = number of favourable outcomes $\div$ total number of outcomes.
- There are $9 + 8 + 5 = 22$ counters in total, and 8 are blue.
- $P(\text{blue}) = \frac{8}{22} = \frac{4}{11}$.

LOS: Probability — Probability

KEY TAKEAWAY

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

Question 3 (2 marks) [Ratio]

Write the ratio 3 : 21 in the form 1 : n.

Answer: 1 : 7

- Divide both numbers by the first number (3) so the first becomes 1.
- $3 \div 3 = 1$ and $21 \div 3 = 7$.

LOS: Ratio, proportion and rates of change — Ratio