

# IGCSE Mathematics

## Foundation Worksheet

8 original questions, working space and separate answer explanations. Version 2026-10-27.

### Scope

Extended foundations · exam years 2025–2027.

This is an untimed foundation study sample, not an official examination or complete mock test. Author-reviewed learning materials; independent educator review and learner calibration remain pending.

### How to use this worksheet

Work through the questions before opening the answer section. Write your calculation or the reason for your choice. After checking the explanation, return to the linked lesson for any unfamiliar distinction.

<https://openexam.site/exams/igcse-math/worksheets/>

QUESTION 1 / Exact number and place value

Without a calculator, evaluate  $\frac{3}{6} + \frac{4}{3}$ .

- A.  $\frac{7}{9}$
- B.  $\frac{2}{3}$
- C.  $\frac{7}{6}$
- D.  $\frac{11}{6}$

Working / reasoning:

Item number-structure-01-1 | Lesson: <https://openexam.site/exams/igcse-math/learn/number-structure/>

QUESTION 2 / Equations and algebraic structure

What is the coefficient of  $x$  when  $(4x+2)(x+3)$  is expanded?

- A. 12
- B. 14
- C. 10
- D. 4

Working / reasoning:

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Item algebra-methods-01-2 | Lesson: <https://openexam.site/exams/igcse-math/learn/algebra-methods/>

QUESTION 3 / Coordinates, gradients and lines

Find the gradient of the line through A(6,1) and B(10,19).

Your answer: \_\_\_\_\_

Working / reasoning:

Item coordinate-geometry-01-4 | Lesson: <https://openexam.site/exams/igcse-math/learn/coordinate-geometry/>

QUESTION 4 / Probability with and without replacement

A bag contains 6 red and 2 blue counters. Two counters are drawn uniformly at random without replacement. Find the probability both are red.

Your answer: \_\_\_\_\_

Working / reasoning:

Item probability-01-4 | Lesson: <https://openexam.site/exams/igcse-math/learn/probability/>

QUESTION 5 / Ratios and percentage changes

A jacket costs 112 dollars after a 20% discount. What was its original price in dollars?

- A. 112
- B. 140
- C.  $448/5$
- D.  $672/5$

Working / reasoning:

Item proportion-01-5 | Lesson: <https://openexam.site/exams/igcse-math/learn/proportion/>

QUESTION 6 / Quadratics and number patterns

Find the larger root of  $x^2 - 11x + 28 = 0$ .

- A. 11
- B. 4
- C. 7
- D. 28

Working / reasoning:

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Item quadratics-sequences-01-2 | Lesson: <https://openexam.site/exams/igcse-math/learn/quadratics-sequences/>

QUESTION 7 / Angles and similar shapes

What is each interior angle, in degrees, of a regular 8-sided polygon?

- A. 60
- B. 135
- C.  $45/2$
- D. 45

Working / reasoning:

Item angles-similarity-01-3 | Lesson: <https://openexam.site/exams/igcse-math/learn/angles-similarity/>

QUESTION 8 / Summaries from frequency data

A data set contains two values equal to 5 and three values equal to 10. Find its mean.

- A. 10
- B. 8
- C. 20
- D. 40

Working / reasoning:

Item statistics-01-3 | Lesson: <https://openexam.site/exams/igcse-math/learn/statistics/>

# IGCSE Mathematics: Answers & Explanations

Compare the method or rule as well as the final answer. These explanations are study aids, not official scoring guidance.

QUESTION 1 / number-structure-01-1

Answer:  $11/6$

1. Use denominator 6 for both terms.
2. The numerator becomes  $3+2(4)=11$ .
3. Reduce the fraction if possible.

QUESTION 2 / algebra-methods-01-2

Answer: 14

1. The x terms come from the two cross-products.
2. They are  $12x$  and  $2x$ .
3. Add their coefficients.

QUESTION 3 / coordinate-geometry-01-4

Answer:  $9/2$

1. Subtract y-coordinates and x-coordinates in the same order.
2. The rise is 18 and the run is 4.
3. Divide rise by run.

QUESTION 4 / probability-01-4

Answer:  $15/28$

1. The first red probability is  $6/8$ .
2. After red is removed, the second is  $5/7$ .
3. Multiply the two probabilities along this path.

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QUESTION 5 / proportion-01-5

Answer: 140

1. The sale price is 80% of the original.
2. Divide by 0.8 rather than adding 20% of the sale price.
3. The original price is 140 dollars.

QUESTION 6 / quadratics-sequences-01-2

Answer: 7

1. Factor as  $(x-4)(x-7)=0$ .
2. Set each factor to zero.
3. Compare 4 and 7.

QUESTION 7 / angles-similarity-01-3

Answer: 135

1. The exterior turning angles total 360 degrees.
2. Divide 360 by the number of equal angles.
3. Subtract one exterior angle from 180 degrees.

QUESTION 8 / statistics-01-3

Answer: 8

1. Compute the frequency-weighted total.
2. There are five observations in all.
3. Divide the total by five.

## References and scope notes

The questions and teaching explanations are original catalog materials. References support the selected concepts; they are not endorsements or a reproduced official examination bank.

Cambridge IGCSE Mathematics 0580

<https://www.cambridgeinternational.org/programmes-and-qualifications/cambridge-igcse-mathematics-0580/>

0580 Extended foundations for 2025–2027; Core is not a separately implemented route.

271 MCQ and 129 numeric learning tasks are not Cambridge paper-format simulations.

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Eight original written extensions include self-assessment rubrics; formal marking and learner calibration are not implemented.

Six caption-grounded companions; selected evidence reused for distinct original teaching, full audiovisual and educator review pending.

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For current exam-provider requirements, follow the official references in the exam guide. This PDF does not assess certification, professional competence or readiness.