

GCSE Higher Starters

Common exam questions worth 10 marks.

These are all number and algebra topics which you need to be able to do to reach a grade A.

Question	Grade	Marks
Expand $(x + 7)(x - 4)$	C	/1
Calculate 5^{-3}	B	/1
Solve $\frac{4x + 2}{3} = 7$	B	/2
Factorise fully $6x^2 - 3xy^2$	C	/2
Round 31.53254 to 2 significant figures	C	/1
Express $\frac{x}{4} + \frac{x + 2}{3}$ as a single fraction	A	/3

Total	/10
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Question	Grade	Marks
Expand $(3x - 7)(x - 2)$	C	/1
Write down the reciprocal of 3	B	/1
Solve $\frac{3x + 12}{5} = 2x + 1$	B	/2
Factorise $x^2 - x - 12$	C	/2
Solve $3x + 7y = 15$ $4x + 5y = 7$	A	/4

Total	/10
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Question	Grade	Marks
Expand $(2x - 5)^2$	C	/2
Round 0.0215584 to 3 significant figures	B	/1
Factorise $2x^2 + 5x + 3$	B	/2
x is directly proportional to the square of y. When x = 32, y = 4. Find x when y = 7.	A	/3
Calculate $\frac{3}{5} + 3\frac{1}{4}$	C	/2

Total	/10
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Question	Grade	Marks
Simplify $x^3 \times x^{-5}$ $\frac{y^6}{y^{-3}}$ $(z^{-2})^5$	C/B	/3
Calculate $3 \times 10^6 \times 8 \times 10^7$	B	/2
Factorise $x^2 - 49$	B	/1
Solve $5x + 3y = 11$ $3x + 6y = -6$	B	/4

Total	/10
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Question	Grade	Marks
Calculate 4^{-3} $16^{-\frac{1}{2}}$	B	/3
Factorise $3x^2 + 14x + 15$	B	/2
x is inversely proportional to y. When x = 3, y = 8. Find x when y = 3.	A	/3
Solve $4\frac{1}{3} - 2\frac{4}{5}$	C	/2

Total	/10
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Question	Grade	Marks
Expand $(2x-5)^2$	C	/1
Round 81275.5 to 3 significant figures	C	/1
Solve $\frac{8x+5}{3} = 2x$	B	/2
The width of a rectangle is 15m correct to the nearest metre. Write down the upper and lower bounds for the width of the book.	B	/1
Expand and simplify $3(2x+5) - 2(4x-3)$	C	/2
Express $\frac{x-1}{2} + \frac{x+3}{5}$ as a single fraction	A	/3

Total	/10
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Question	Grade	Marks
Expand $(5x-2)(3x+1)$	C	/1
Calculate $9^{-3/2}$	B	/2
Solve $2x + 8 \leq 5x - 4$	C	/2
Calculate $\frac{3}{7} + 2\frac{1}{5}$	C	/2
Solve $4x - 5y = 31$ $5x - 3y = 29$	A	/3

Total	/10
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Question	Grade	Marks
Simplify $\frac{20x^3y^4}{4x^5y^3}$	B	/2
Given a = 4, b = -3, find the value of: $2a+3b^2$	C	/1
Find the prime factor decomposition of 192	C	/2
Calculate $8^{-\frac{2}{3}}$	B	/2
Simplify $\frac{x^2 + 3x - 10}{3x - 6}$	A	/3

Total	/10
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Question	Grade	Marks
Calculate $4.6 \times 10^7 \div 2.3 \times 10^3$	B	/2
Round 0.0157124 to 3 significant figures	B	/1
Factorise $16x^2 - 64y^2$	B	/1
x is directly proportional to the square root of y. When x = 24, y = 16. Find x when y = 9.	A	/4
Generate the first 3 terms of: $10 - 2n^2$	C	/2

Total	/10
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Question	Grade	Marks
Simplify $x^{-5} \times x^3$ $\frac{36ab^5}{8a^{-3}b^8}$ $(16x^8y^3)^{1/2}$	C/B	/4
Write down the reciprocal of 3	C	/1
Write 4 out of 25 as a percentage.	C	/1
Solve $5x + 2y = 11$ $4x - 2y = 18$	B	/4

Total	/10
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