

Factorising and Solving Quadratics

GCSE Maths · Practice Questions

20 questions · 62 marks total

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Section A · Foundation

Questions 1–3 are the most straightforward; they get harder as you go on. Question 10 is the most challenging.

1 [1 mark]

Factorise $x^2 + 5x$

.....

2 [2 marks]

Factorise $x^2 + 7x + 10$

.....

3 [2 marks]

Factorise $x^2 - 4x + 3$

.....

4 [2 marks]

Solve $(x - 2)(x + 5) = 0$

.....

5 [3 marks]

Factorise $x^2 + x - 12$

.....

6 [3 marks]

Solve $x^2 + 6x + 8 = 0$

.....

7

[3 marks]

Factorise

(a) $x^2 - 16$

(b) $x^2 - 100$

8

[3 marks]

Solve $x^2 - 5x = 0$

9

[4 marks]

A rectangle has width x cm and length $(x + 2)$ cm. Its area is 48 cm^2 .

(a) Show that $x^2 + 2x - 48 = 0$

(b) Work out the length and width of the rectangle.

10

[4 marks]

A curve has equation $y = x^2 - x - 6$

(a) Factorise $x^2 - x - 6$

(b) Write down where the curve crosses the x -axis.(c) Write down where the curve crosses the y -axis.(d) Write down the equation of the line of symmetry.

Section B · Higher

Higher-tier style. Again, questions 1–3 are the gentlest and question 10 is the hardest.

1

[2 marks]

Factorise $2x^2 + 5x + 2$

2

[2 marks]

Solve $x^2 - 11x + 30 = 0$

.....

3

[3 marks]

Solve $3x^2 - 12x = 0$

.....

4

[3 marks]

Solve $4x^2 - 25 = 0$

.....

5

[4 marks]

Solve $2x^2 + 7x - 15 = 0$

.....

6

[4 marks]

Solve $6x^2 - 11x + 3 = 0$

.....

7

[4 marks]

Solve $(x + 2)(x - 1) = 18$

.....

8

[4 marks]

Solve $x + \frac{20}{x} = 9$

.....

9

[4 marks]

Solve $\frac{1}{x} + \frac{1}{x+1} = \frac{5}{6}$

.....

10

[5 marks]

A right-angled triangle has shorter sides of length x cm and $(x + 7)$ cm, and hypotenuse $(x + 8)$ cm.

(a) Show that $x^2 - 2x - 15 = 0$

(b) Work out the lengths of all three sides.

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