

AQA, OCR, Edexcel

GCSE

GCSE Maths

Completing the Square Hard Questions

Name:

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Total Marks: /26

Completing the Square (Hard)

1. Write $2x^2 + 7x - 3$ in the form $a(x + m)^2 + n$.

(4 Marks)

2. a. Write $2x^2 + 9x + 1$ in the form $a(x + m)^2 + n$.
b. Hence solve $2x^2 + 9x + 1 = 0$, leaving your answer in surd form.

(5 Marks)

3. A curve has an equation $y = 2x^2 - 5x + 12$.
a. Write $y = 2x^2 - 5x + 12$ in the form $y = a(x + m)^2 + n$.
b. Find the coordinates of the minimum point of the graph.
c. Does the graph of $y = 2x^2 - 5x + 12$, cross the x-axis? If yes, then find the coordinates of the point of intersection.

(6 Marks)

4. A curve has an equation $y = 2x^2 - 11x - 15$.
d. Write $y = 2x^2 - 11x - 15$ in the form $y = a(x + m)^2 + n$.
e. Find the coordinates of the minimum point of the graph.
f. Does the graph of $y = 2x^2 - 11x - 15$ cross the x-axis? If yes, then find the coordinates of the point of intersection.

(6 Marks)

5. A curve has an equation $y = -x^2 - 5x - 10$.
Find the coordinates for the maximum point of the graph.

(5 Marks)