

Completing the Square

Question Paper

Course	Edexcel IGCSE Maths
Section	2. Equations, Formulae & Identities
Topic	Completing the Square
Difficulty	Very Hard

Time allowed: 40
Score: /26
Percentage: /100

Question 1a

Write $2x^2 + 16x + 35$ in the form $a(x + b)^2 + c$ where a , b , and c are integers.

[3 marks]

Question 1b

Hence, or otherwise, write down the coordinates of the turning point of the graph of $y = 2x^2 + 16x + 35$

[1 mark]

Question 2a

Express $7 + 12x - 3x^2$ in the form $a + b(x + c)^2$ where a , b and c are integers.

[3 marks]

Question 2b

C is the curve with equation $y = 7 + 12x - 3x^2$

The point **A** is the maximum point on **C**

Use your answer to part (a) to write down the coordinates of **A**

[1 mark]

Question 3

Express $7 - 12x - 2x^2$ in the form $a + b(x + c)^2$ where a , b and c are integers.

[3 marks]

Question 4

The function f is such that $f(x) = 5 + 6x - x^2$ for $x \leq 3$

Express $5 + 6x - x^2$ in the form $p - (x - q)^2$ where p and q are constants.

[2 marks]

Question 5

Write $5 + 12x - 2x^2$ in the form $a + b(x + c)^2$ where a , b and c are integers.

[4 marks]

Question 6

Express $7 - 4x - x^2$ in the form $p - (x + q)^2$ where p and q are constants.

[2 marks]

Question 7

$2x^2 - 6x + 5$ can be written in the form $a(x - b)^2 + c$

where a , b and c are positive numbers.

Work out the values of a , b and c .

$a = \dots\dots\dots$

$b = \dots\dots\dots$

$c = \dots\dots\dots$

[3 marks]

Question 8

Find the turning point of $y = x^2 + 4x - 3$ by completing the square.

(.....,))

[4 marks]

