EXAM PAPERS PRACTICE

GCSE Edexcel Math
1MA1
Completing the square

Question Paper

"We will help you to achieve A Star "

EXAM PAPERS PRACTICE

Question 1

The expression $x^2 - 8x + 21$ can be written in the form $(x - a)^2 + b$ for all values of x.

(a) Find the value of a and the value of b.

[3 marks]

Question 2

Solve $(x - 2)^2 = 3$

Give your solutions correct to 3 significant figures.

[2 marks]

Question 3

Write $x^2 + 2x - 8$ in the form $(x + m)^2 + n$
where m and n are integers.

[2 marks]

Question 4

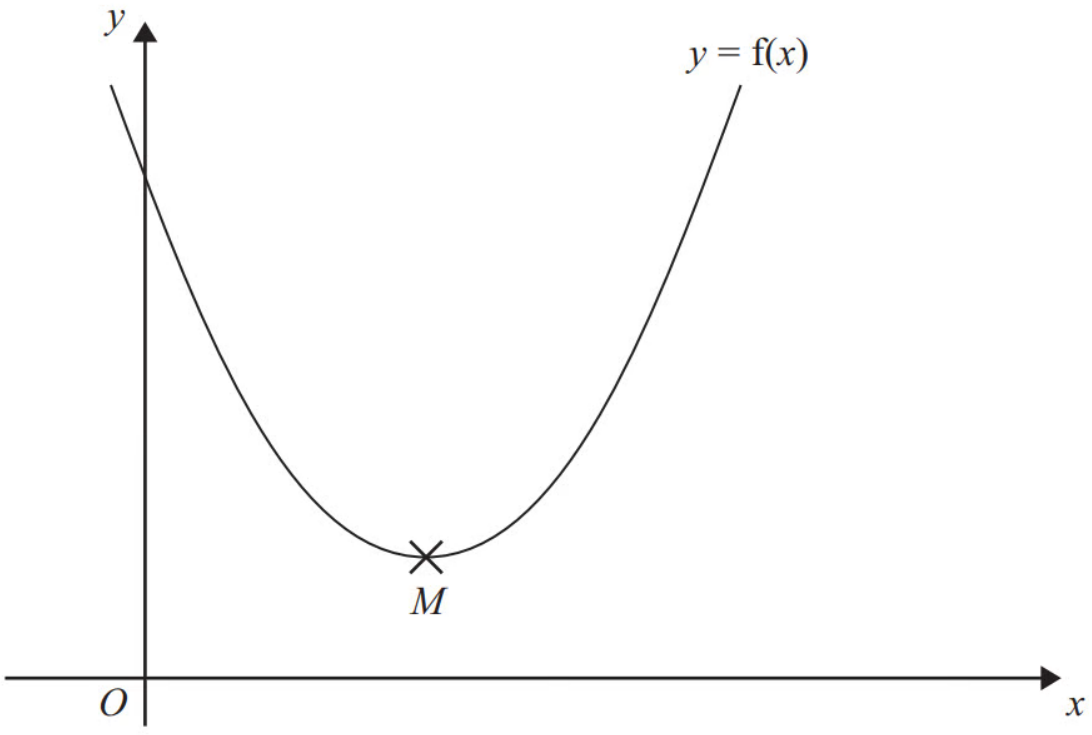
(a) Write the quadratic function $y = x^2 + 8x - 9$ in the form $y = a(x + b)^2 + c$ where a, b and c are integers to be found.

[2 marks]

Question 5

The equation of a curve is $y = f(x)$ where $f(x) = x^2 - 8x + 21$

The diagram shows part of a sketch of the graph of $y = f(x)$.



The minimum point of the curve is M.

(b) Write down the coordinates of M.

[1 mark]

Question 6

Write $x^2 + 6x - 7$ in the form $(x + a)^2 + b$ where a and b are integers.

[2 marks]

Question 7

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

Write your answer in the form $a \pm \sqrt{b}$ where a and b are integers.

[3 marks]

Question 8

(b) Write down the minimum point on the graph of $y = x^2 + 8x - 9$.

[1 mark]

Question 9

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

[3 marks]

Question 10

(a) Write the quadratic function $y = 4x^2 + 8x - 5$ in the form $y = a(x + b)^2 + c$ where a, b and c are integers to be found.

[2 marks]

Question 11

(a) Find the minimum value of the function $f(x) = x^2 + 4x + c$, giving your answer in terms of c.

[2 marks]

Question 12

(a) Write the quadratic function $y = -6x^2 + 8x - 5$ in the form $y = a - b(x + c)^2$ where a, b and c are constants to be found.

[2 marks]

Question 13

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

[1 mark]

Question 14

(b) Write down the minimum point on the graph of $y = 4x^2 + 8x - 5$.

[1 mark]

Question 15

(b) Given that $c = 5$, hence, or otherwise, show that the function $f(x) = x^2 + 4x + c$ has no real roots.

[2 marks]