Autumn 2017 Paper 3 Q13

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

.....

(Total for Question 1 is 2 marks)

Summer 2019 Paper 1 Q19

2 Given that $x^2 - 6x + 1 = (x - a)^2 - b$ for all values of x,

(i) find the value of a and the value of b.

$a =$ .....

$b =$ .....

(2)

(ii) Hence write down the coordinates of the turning point on the graph of $y = x^2 - 6x + 1$

(..... , ...)

(1)

(Total for Question 2 is 3 marks)

Autumn 2019 Paper 1 Q21

3 Sketch the graph of

$$y = 2x^2 - 8x - 5$$

showing the coordinates of the turning point and the exact coordinates of any intercepts with the coordinate axes.

(Total for Question 3 is 5 marks)

Summer 2021 Paper 1 Q22

4 Find the coordinates of the turning point on the curve with equation $y = 9 + 18x - 3x^2$
You must show all your working.

(..... , ...)

(Total for Question 4 is 4 marks)

Autumn 2022 Paper 3 Q21

5 The equation of a curve is $y = 4x^2 - 56x$
The curve has one turning point.

By completing the square, show that the coordinates of the turning point are $(7, -196)$
You must show all your working.

(Total for Question 5 is 3 marks)