

WJEC June 2018 Q7

The expression $x^2 + 18x + 92$ has a minimum value.

By **completing the square**, complete the statements below.
You must show your working.

[3]

'The minimum value of $x^2 + 18x + 92$ occurs when $x = \dots\dots\dots$ '

'The minimum value of $x^2 + 18x + 92$ is $\dots\dots\dots$ '

WJEC June 2017 Q3

The expression $x^2 + 22x + 123$ has a minimum value.

By **completing the square**, complete the statements below.
You must show your working.

[3]

'The minimum value of $x^2 + 22x + 123$ occurs when $x = \dots\dots\dots$ '

'The minimum value of $x^2 + 22x + 123$ is $\dots\dots\dots$ '

WJEC June 2016 Q1b

(b) (i) Use the method of completing the square to find the least value of

$$x^2 + 12x + 49.$$

[3]

Least value of $x^2 + 12x + 49$ is $\dots\dots\dots$

(ii) What is the value of x when $x^2 + 12x + 49$ has its least value?

[1]

WJEC June 2015 Q2

The expression $x^2 + 14x + 9$ has a minimum value.

(a) By **completing the square**, find the value of x when $x^2 + 14x + 9$ has its minimum value.
You must show your working.

[2]

(b) Write down the minimum value of $x^2 + 14x + 9$.

[1]

WJEC June 2014 Q2b

Use the method of completing the square to find the least value of $x^2 + 10x + 3$. [3]

WJEC June 2013 Q2b

Use the method of completing the square to find the least value of $x^2 + 12x + 5$.

WJEC June 2012 Q9b

Use the method of completing the square to find the least value of $x^2 + 10x + 15$.

[3]

WJEC June 2015 Q5

You will be assessed on the quality of your written communication in this question.

The length of a solid rectangular block is x cm.

The width of the block is 4 cm less than its length.

The height is 1 cm more than the length.

The total surface area of the rectangular block is 124 cm^2 .

By showing that $x^2 - 2x = 22$, find the length of the rectangular block, giving your answer in its simplest surd form.

You must use an algebraic method and show all your working.

[10]