

Algebra - Completing the Square

Q1

(a) Find a and b when

$$x^2 + 4x + 17 = (x + a)^2 + b.$$

(a) $a =$ _____ $b =$ _____ [3]

(b) Write down the minimum value of $x^2 + 4x + 17$.

(b) _____ [1]

Q2

Write $x^2 + 8x - 1$ in the form $(x + c)^2 + d$.

_____ [3]

Algebra - Completing the Square

Q1

(a) Find a and b when

$$x^2 + 4x + 17 = (x + a)^2 + b.$$

$$x^2 + 4x + 17$$

$$= (x + 2)^2 + 17 - 4$$

$$= (x + 2)^2 + 13$$

$$(a) a = \underline{2} \quad b = \underline{13} \quad [3]$$

(b) Write down the minimum value of $x^2 + 4x + 17$.

$$(b) \underline{13} \quad [1]$$

Q2

Write $x^2 + 8x - 1$ in the form $(x + c)^2 + d$.

$$x^2 + 8x - 1$$

$$= (x + 4)^2 - 1 - 16$$

$$= (x + 4)^2 - 17$$

$$\underline{\hspace{10em}} \quad [3]$$