

Algebra I B.W. - Quiz Practice

Find the value of n such that each expression is a perfect square trinomial.

1.) $x^2 - 2x - n$

2.) $x^2 + 16x + n$

Solve each quadratic by Completing the Square.

3.) $x^2 + 2x - 8 = 0$

4.) $x^2 - 2x - 1 = 2$

Convert each from Standard/Vertex Form.

5.) $y = x^2 + 4x - 10$

6.) $y = -2(x + 3)^2 - 7$

(Answers)

Find the value of n such that each expression is a perfect square trinomial.

1.) $x^2 - 2x - n$

$$\frac{b}{2} = \frac{(-2)}{2} = (-1) \quad \boxed{= 1}$$

2.) $x^2 + 16x + n$

$$\frac{b}{2} = \frac{16}{2} = 8 \quad \boxed{= 64}$$

Solve each quadratic by Completing the Square.

3.) $x^2 + 2x - 8 = 0$
 $+8 +8$

$$x^2 + 2x = 8 \quad \nearrow \quad (x+1)^2 = 9$$

$$x^2 + 2x + 1 = 8 + 1 \quad \boxed{x = 2, -4}$$

4.) $x^2 - 2x - 1 = 2$

$$\begin{aligned} & \frac{+1 +1}{x^2 - 2x = 3} \\ & x^2 - 2x + 1 = 3 + 1 \\ & (x-1)^2 = 4 \Rightarrow x-1 = \pm 2 \end{aligned}$$

Convert each from Standard/Vertex Form.

5.) $y = x^2 + 4x - 10$

$$h = x = \frac{-4}{2(1)} = -2 \quad y = (x+2)^2 - 14$$

$$k = y = (-2)^2 + 4(-2) - 10 = -14$$

6.) $y = -2(x + 3)^2 - 7$

$$\begin{aligned} & y = -2(x+3)(x+3) - 7 \quad \boxed{x = 3, -} \\ & = -2(x^2 + 6x + 9) - 7 \\ & = -2x^2 - 12x - 18 - 7 = -2x^2 - 12x - 25 \end{aligned}$$