

Anti-Quiz # 3

Solve the equation: $x^2 - 9x = -8$

SOLUTION.

Add 8,

$$x^2 - 9x + 8 = 0$$

Factor,

$$(x - 1)(x - 8) = 0,$$

$$x - 1 = 0 \text{ or } x - 8 = 0$$

$$\boxed{x=1 \text{ or } x=8}$$

Or, use the formula for the roots,

$$x = \frac{9 \pm \sqrt{9^2 - 4 \cdot 1 \cdot 8}}{2 \cdot 1} = \frac{9 \pm 7}{2} = 1 \text{ or } 8$$

Check: $1^2 - 9 \cdot 1 = -8$, $8^2 - 9 \cdot 8 = -8$.

Solve the equation: $x^2 + 6 = 7x$

SOLUTION.

Subtract $7x$,

$$x^2 - 7x + 6 = 0$$

Factor,

$$(x - 1)(x - 6) = 0,$$

$$x - 1 = 0 \text{ or } x - 6 = 0$$

$$\boxed{x=1 \text{ or } x=6}$$

Or, use the formula for the roots,

$$x = \frac{7 \pm \sqrt{7^2 - 4 \cdot 1 \cdot 6}}{2 \cdot 1} = \frac{7 \pm 5}{2} = 1 \text{ or } 6$$

Check: $1^2 + 6 = 7 \cdot 1$, $6^2 + 6 = 7 \cdot 6$.