



Polynomial, Equation, Factoring

Name _____ Date _____

Given a second-degree equation, solve it by factoring the trinomial first.

(1) $x^2 - 6x - 7 = 0$

(2) $x^2 + 15x + 50 = 0$

(3) $x^2 + 8x + 12 = 0$

(4) $x^2 + 8x + 7 = 0$

(5) $x^2 - x - 42 = 0$

(6) $x^2 + 13x + 36 = 0$

(7) $x^2 - 14x + 45 = 0$

(8) $x^2 - 7x = 0$

(9) $x^2 + 12x + 35 = 0$

(10) $x^2 + 3x - 70 = 0$

(11) $x^2 - 2x - 3 = 0$

(12) $x^2 + 11x + 10 = 0$



Answers

Given a second-degree equation, solve it by factoring the trinomial first.

$$\begin{aligned}(1) \quad x^2 - 6x - 7 &= 0 \\ (x - 7)(x + 1) &= 0 \\ x = 7, x = -1\end{aligned}$$

$$\begin{aligned}(2) \quad x^2 + 15x + 50 &= 0 \\ (x + 10)(x + 5) &= 0 \\ x = -10, x = -5\end{aligned}$$

$$\begin{aligned}(3) \quad x^2 + 8x + 12 &= 0 \\ (x + 2)(x + 6) &= 0 \\ x = -2, x = -6\end{aligned}$$

$$\begin{aligned}(4) \quad x^2 + 8x + 7 &= 0 \\ (x + 7)(x + 1) &= 0 \\ x = -7, x = -1\end{aligned}$$

$$\begin{aligned}(5) \quad x^2 - x - 42 &= 0 \\ (x + 6)(x - 7) &= 0 \\ x = -6, x = 7\end{aligned}$$

$$\begin{aligned}(6) \quad x^2 + 13x + 36 &= 0 \\ (x + 4)(x + 9) &= 0 \\ x = -4, x = -9\end{aligned}$$

$$\begin{aligned}(7) \quad x^2 - 14x + 45 &= 0 \\ (x - 5)(x - 9) &= 0 \\ x = 5, x = 9\end{aligned}$$

$$\begin{aligned}(8) \quad x^2 - 7x &= 0 \\ (x - 7)(x + 0) &= 0 \\ x = 7, x = 0\end{aligned}$$

$$\begin{aligned}(9) \quad x^2 + 12x + 35 &= 0 \\ (x + 7)(x + 5) &= 0 \\ x = -7, x = -5\end{aligned}$$

$$\begin{aligned}(10) \quad x^2 + 3x - 70 &= 0 \\ (x - 7)(x + 10) &= 0 \\ x = 7, x = -10\end{aligned}$$

$$\begin{aligned}(11) \quad x^2 - 2x - 3 &= 0 \\ (x + 1)(x - 3) &= 0 \\ x = -1, x = 3\end{aligned}$$

$$\begin{aligned}(12) \quad x^2 + 11x + 10 &= 0 \\ (x + 1)(x + 10) &= 0 \\ x = -1, x = -10\end{aligned}$$