

Solving Quadratics - Part 2 - (NOTES)

Solve each equation by factoring.

1) $(5x - 3)(x + 8) = 0$

$$\begin{array}{l} 5x - 3 = 0 \\ +5 \quad +3 \\ \hline 5x = 3 \\ \hline x = 3/5 \end{array} \quad \begin{array}{l} x + 8 = 0 \\ -8 \quad -8 \\ \hline x = -8 \end{array}$$

2) $(8x - 5)(x - 6) = 0$

$$\begin{array}{l} 8x - 5 = 0 \\ +5 \quad -5 \\ \hline 8x = 5 \\ \hline x = 5/8 \end{array} \quad \begin{array}{l} x - 6 = 0 \\ \hline x = 6 \end{array}$$

3) $m^2 + m - 12 = 0$

MUST ADD TO
MUST MULTIPLY TO

$(m + 4)(m - 3) = 0$

$$\begin{array}{l} m + 4 = 0 \\ \hline m = -4 \end{array} \quad \begin{array}{l} m - 3 = 0 \\ \hline m = 3 \end{array}$$

5) $p^2 - 9p + 14 = 0$

$(p - 7)(p - 2) = 0$

$$\begin{array}{l} p - 7 = 0 \\ \hline p = 7 \end{array} \quad \begin{array}{l} p - 2 = 0 \\ \hline p = 2 \end{array}$$

7) $n^2 + 3n + 1 = 5$

$$\begin{array}{l} n^2 + 3n - 4 = 0 \\ \oplus \quad \otimes \end{array}$$

$(n - 1)(n + 4) = 0$

$$\begin{array}{l} n - 1 = 0 \\ \hline n = 1 \end{array} \quad \begin{array}{l} n + 4 = 0 \\ \hline n = -4 \end{array}$$

9) $x^2 - 6x + 12 = x$

$$\begin{array}{l} x^2 - 7x + 12 = 0 \\ \oplus \quad \otimes \end{array}$$

$(x - 3)(x - 4) = 0$

$$\begin{array}{l} x - 3 = 0 \\ \hline x = 3 \end{array} \quad \begin{array}{l} x - 4 = 0 \\ \hline x = 4 \end{array}$$

11) $6x^2 - 4x + 27 = -1 + 7x + 5x^2$

$$\begin{array}{l} x^2 - 11x + 28 = 0 \\ \oplus \quad \otimes \end{array}$$

$(x - 4)(x - 7) = 0$

$$\begin{array}{l} x - 4 = 0 \\ \hline x = 4 \end{array} \quad \begin{array}{l} x - 7 = 0 \\ \hline x = 7 \end{array}$$

4) $b^2 - 10b + 16 = 0$

$(b - 8)(b - 2) = 0$

$$\begin{array}{l} b - 8 = 0 \\ \hline b = 8 \end{array} \quad \begin{array}{l} b - 2 = 0 \\ \hline b = 2 \end{array}$$

6) $x^2 - x - 6 = 0$

$(x + 2)(x - 3) = 0$

$$\begin{array}{l} x + 2 = 0 \\ \hline x = -2 \end{array} \quad \begin{array}{l} x - 3 = 0 \\ \hline x = 3 \end{array}$$

8) $x^2 = 7x - 6$

$$\begin{array}{l} x^2 - 7x + 6 = 0 \\ \oplus \quad \otimes \end{array}$$

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

$$\begin{array}{l} x - 6 = 0 \\ \hline x = 6 \end{array} \quad \begin{array}{l} x - 1 = 0 \\ \hline x = 1 \end{array}$$

10) $-7x^2 - 2x - 48 = -8x^2$

$$\begin{array}{l} x^2 - 2x - 48 = 0 \\ \oplus \quad \otimes \end{array}$$

$(x + 6)(x - 8) = 0$

$$\begin{array}{l} x + 6 = 0 \\ \hline x = -6 \end{array} \quad \begin{array}{l} x - 8 = 0 \\ \hline x = 8 \end{array}$$