

$$\begin{aligned}
 & -4x^2 + 15x + 25 \\
 & -(4x^2 - 15x - 25) \quad \begin{array}{l} ac = -100 \\ b = -15 \\ \frac{-15 \pm \sqrt{225}}{20} \end{array} \\
 & -(4x^2 - 20x + 5x - 25) \\
 & -(4x(x-5) + 5(x-5)) \\
 & -(x-5)(4x+5) \\
 \\
 & w^2 + 2w + 24 \quad \begin{array}{l} ac = 24 \\ b = 2 \\ \frac{2 \pm \sqrt{4}}{1} \end{array} \\
 & 2(w^2 + 2w + 24) \\
 & \frac{2x + 35}{7x} \neq \frac{37}{7} \\
 & \frac{37}{7} \\
 & \frac{2x + 15}{7x} \cdot \frac{x}{b} = \frac{(2x+15)(x^2)}{42}
 \end{aligned}$$

Nov 2-9:12 AM

Factoring Special Cases

$$\begin{aligned}
 & 4x^2 - 25 \\
 & (2x+5)(2x-5) \\
 & \boxed{4x^2} - \boxed{10x} + \boxed{10x} - \boxed{25} \\
 & \quad \quad \quad \downarrow \downarrow \\
 & \quad \quad \quad 0 \\
 & 4x^2 - 25
 \end{aligned}$$

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$(a + b)(a - b) = a^2 - b^2$
Conjugate Pairs
Difference of Two Squares

F: $a \cdot a = a^2$
 O: $a \cdot (-b) = -ab$
 I: $b \cdot a = ab$
 L: $b \cdot (-b) = -b^2$

} = 0 $a^2 - b^2$

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$$\begin{aligned}
 & 16x^2 - 36 \\
 & a = \boxed{4x}^2 = 16x^2 \\
 & b = \boxed{6}^2 = 36 \\
 & (a + b)(a - b) \\
 & (4x + 6)(4x - 6) \\
 & 16x^2 - 24x + 24x - 36 \\
 & 16x^2 - 36 \checkmark
 \end{aligned}$$

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$$\begin{aligned}
 & \boxed{169y}^2 - \boxed{4} \\
 & a = (13y)^2 = 169y^2 \quad (13y+2)(13y-2) \\
 & b = (2)^2 = 4
 \end{aligned}$$

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$$\begin{aligned}
 & \boxed{?}x^2 - \boxed{1} \\
 & a = (1x)^2 = 1x^2 \quad (x+1)(x-1) \\
 & b = (1)^2 = 1
 \end{aligned}$$

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$$\boxed{49} - a^2 y^2$$

$$a = (7)^2 = 49 \quad (7+ay)(7-ay)$$

$$b = (ay)^2 = a^2 y^2$$

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