

## Algebra I Worksheet #3 Unit 12 Selected Homework Solutions

Use the factoring method to solve each equation. Show your work neatly organized in the space provided.

$$\begin{aligned}4. \quad 15x^2 + 13x + 2 &= 0 \\ (5x + 1)(3x + 2) &= 0 \\ 5x + 1 = 0 \text{ or } 3x + 2 &= 0 \\ 5x = -1 \quad 3x &= -2 \\ x = -1/5 \text{ or } x &= -2/3\end{aligned}$$

$$\begin{aligned}7. \quad x^2 - 1 &= 0 \\ (x + 1)(x - 1) &= 0 \\ x + 1 = 0 \text{ or } x - 1 &= 0 \\ x = -1 \text{ or } x &= 1 \\ x &= \pm 1\end{aligned}$$

$$\begin{aligned}10. \quad 9x^2 - 12x + 4 &= 0 \\ (3x - 2)^2 &= 0 \\ 3x - 2 &= 0 \\ 3x &= 2 \\ x &= 2/3\end{aligned}$$

$$\begin{aligned}13. \quad 25x^2 = 36 \\ 25x^2 - 36 &= 0 \\ (5x + 6)(5x - 6) &= 0 \\ 5x + 6 = 0 \text{ or } 5x - 6 &= 0 \\ 5x = -6 \quad 5x &= 6 \\ x = -6/5 \text{ or } x &= 6/5 \\ x &= \pm 6/5\end{aligned}$$

$$\begin{aligned}16. \quad 6x^2 + 21 = 23x \\ 6x^2 - 23x + 21 &= 0 \\ (3x - 7)(2x - 3) &= 0 \\ 3x - 7 = 0 \text{ or } 2x - 3 &= 0 \\ 3x = 7 \quad 2x &= 3 \\ x = 7/3 \text{ or } x &= 3/2\end{aligned}$$

$$\begin{aligned}19. \quad (x + 3)(x - 1) &= 4x + 5 \\ x^2 + 2x - 3 &= 4x + 5 \\ x^2 - 2x - 8 &= 0 \\ (x - 4)(x + 2) &= 0 \\ x - 4 = 0 \text{ or } x + 2 &= 0 \\ x = 4 \text{ or } x &= -2\end{aligned}$$