

Algebra II Worksheet #3 Unit 6 Selected Solutions

Use the factoring method to solve each of the following equations. Show your process neatly organized.

3. $x^2 - 100 = 0$

$$(x + 10)(x - 10) = 0$$

$$x + 10 = 0 \text{ or } x - 10 = 0$$

$$x = -10 \text{ or } x = 10$$

6. $x^2 - 8x + 15 = 0$

$$(x - 3)(x - 5) = 0$$

$$x - 3 = 0 \text{ or } x - 5 = 0$$

$$x = 3 \text{ or } x = 5$$

9. $3x^2 + 14x + 15 = 0$

$$(3x + 5)(x + 3) = 0$$

$$3x + 5 = 0 \text{ or } x + 3 = 0$$

$$x = -5/3 \text{ or } x = -3$$

12. $10x^2 + 13x - 3 = 0$

$$(5x - 1)(2x + 3) = 0$$

$$5x - 1 = 0 \text{ or } 2x + 3 = 0$$

$$x = 1/5 \text{ or } x = -3/2$$

15. $x^2 + 3x = 3x + 4$

$$x^2 - 4 = 0$$

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

$$x + 2 = 0 \text{ or } x - 2 = 0$$

$$x = -2 \text{ or } x = 2$$

18. $x^2 + (x - 2)^2 = (x + 2)^2$

$$x^2 + x^2 - 4x + 4 = x^2 + 4x + 4$$

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

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

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

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