

General Algebra II Worksheet #1 Unit 8 Selected Solutions

Perform the indicated operations.

$$1. x(x + 2) = \underline{x^2 + 2x}$$

$$3. 4x(x + 5) = \underline{4x^2 + 20x}$$

$$6. 5x(2x - 7) = \underline{10x^2 - 35x}$$

$$8. -2x(4x - 3) = \underline{-8x^2 + 6x}$$

Factor each of the following.

$$9. x^2 + 5x = \underline{x(x + 5)}$$

$$12. 2x^2 - 10x = \underline{2x(x - 5)}$$

$$13. 8x^2 + 12x = \underline{4x(2x + 3)}$$

$$15. -5x^2 + 20x = \underline{-5x(x - 4)}$$

Perform the indicated operations.

$$18. (x - 3)(x + 3) = \underline{x^2 - 9}$$

$$20. (5x - 2)(5x + 2) = \underline{25x^2 - 4}$$

Factor each of the following.

$$21. x^2 - 9 = \underline{(x + 3)(x - 3)}$$

$$24. 81x^2 - 1 = \underline{(9x + 1)(9x - 1)}$$

Perform the indicated operations.

$$27. (x - 1)(x - 9) = \underline{x^2 - 10x + 9}$$

$$30. (x + 2)(x - 5) = \underline{x^2 - 3x - 10}$$

Factor each of the following.

$$33. x^2 + 5x + 6 = \underline{(x + 2)(x + 3)}$$

$$36. x^2 - 10x + 21 = \underline{(x - 3)(x - 7)}$$

$$39. x^2 + 3x - 18 = \underline{(x + 6)(x - 3)}$$

$$42. x^2 - 6x + 9 = \underline{(x - 3)(x - 3)}$$

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

$$45. 6x^2 + 9x = 0$$

$$48. 16x^2 - 25 = 0$$

$$51. x^2 + 10x + 16 = 0$$

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

$$(4x + 5)(4x - 5) = 0$$

$$(x + 2)(x + 8) = 0$$

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

$$4x + 5 = 0 \text{ or } 4x - 5 = 0$$

$$x + 2 = 0 \text{ or } x + 8 = 0$$

$$x = 0 \text{ or } x = -3/2$$

$$x = -5/4 \text{ or } x = 5/4$$

$$x = -2 \text{ or } x = -8$$

$$54. x^2 - 3x - 28 = 0$$

$$57. x^2 + 2x - 24 = 0$$

$$60. x^2 - 6x + 9 = 0$$

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

$$(x + 6)(x - 4) = 0$$

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

$$x + 4 = 0 \text{ or } x - 7 = 0$$

$$x + 6 = 0 \text{ or } x - 4 = 0$$

$$x - 6 = 0$$

$$x = -4 \text{ or } x = 7$$

$$x = -6 \text{ or } x = 4$$

$$x = 6$$