

## Algebra Worksheet

**Apply the Distributive Property, and then simplify the following expressions, combining like terms:**

1.)  $8(x + 7) =$  \_\_\_\_\_

2.)  $4(3x + 2) =$  \_\_\_\_\_

3.)  $x(x + 6) =$  \_\_\_\_\_

4.)  $2x(x - 3) =$  \_\_\_\_\_

5.)  $5x(3x + 1) + x^2 =$  \_\_\_\_\_

6.)  $-3x(x - 4) + 6x =$  \_\_\_\_\_

7.)  $3(5x^2 + 6x) + 5x + 12 =$  \_\_\_\_\_

**Use the FOIL Method to multiply the following binomials, combining like terms:**

8.)  $(x + 2)(x + 3) =$  \_\_\_\_\_

9.)  $(x - 3)(x - 4) =$  \_\_\_\_\_

10.)  $(2x + 3)(3x + 5) =$  \_\_\_\_\_

11.)  $(4x - 5)(5x + 3) =$  \_\_\_\_\_

12.)  $(x + 1)(x - 1) =$  \_\_\_\_\_

13.)  $(2x - 3)(2x + 3) =$  \_\_\_\_\_

14.)  $(5x - 5)(2x - 4) =$  \_\_\_\_\_

15.)  $(x + 1)(x + 1) =$  \_\_\_\_\_

## Algebra Worksheet ANSWER KEY

**Apply the Distributive Property, and then simplify the following expressions, combining like terms:**

1.)  $8(x + 7) = \underline{8x + 56}$

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

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

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

5.)  $5x(3x + 1) + x^2 = 15x^2 + 5x + x^2 = \underline{16x^2 + 5x}$

6.)  $-3x(x - 4) + 6x = -3x^2 + 12x + 6x = \underline{-3x^2 + 18x}$

7.)  $3(5x^2 + 6x) + 5x + 12 = 15x^2 + 18x + 5x + 12 = \underline{15x^2 + 23x + 12}$

**Use the FOIL Method to multiply the following binomials, combining like terms:**

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

9.)  $(x - 3)(x - 4) = x^2 - 4x - 3x + 12 = \underline{x^2 - 7x + 12}$

10.)  $(2x + 3)(3x + 5) = 6x^2 + 10x + 9x + 15 = \underline{6x^2 + 19x + 15}$

11.)  $(4x - 5)(5x + 3) = 20x^2 + 12x - 25x - 15 = \underline{20x^2 - 13x - 15}$

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

13.)  $(2x - 3)(2x + 3) = 4x^2 + 6x - 6x - 9 = \underline{4x^2 - 9}$

14.)  $(5x - 5)(2x - 4) = 10x^2 - 20x - 10x + 20 = \underline{10x^2 - 30x + 20}$

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