

Name _____

Solving Using the Quadratic Formula Worksheet

The Quadratic Formula: For quadratic equations: $ax^2 + bx + c = 0$,

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Solve each equation using the Quadratic Formula.

1. $4x^2 + 11x - 20 = 0$

2. $x^2 - 5x - 24 = 0$

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

4. $x^2 + 5 = -5x$

5. $x^2 = -x + 1$

6. $4x^2 - 1 = -8x$

7. $4x^2 + 7x - 15 = 0$

8. $x^2 + 3x - 10 = 0$

$$9. x^2 = x + 3$$

$$10. 2x^2 + 23 = 14x$$

$$11. x^2 = 2x + 48$$

$$12. 2x^2 + 39 = -18x$$

$$13. 5x^2 + 3x + 1 = 0$$

$$14. 5x^2 + 50x = -125$$

Answers:

$$1. x = \frac{5}{4}, x = -4$$

$$7. x = \frac{5}{4}, x = -3$$

$$2. x = 8, x = -3$$

$$8. x = 2, x = -5$$

$$3. x = \frac{3 \pm \sqrt{21}}{2}$$

$$9. x = \frac{1 \pm \sqrt{13}}{2}$$

$$4. x = \frac{-5 \pm \sqrt{5}}{2}$$

$$10. x = \frac{7 \pm \sqrt{3}}{2}$$

$$5. x = \frac{-1 \pm \sqrt{5}}{2}$$

$$11. x = 8, x = -6$$

$$6. x = \frac{-2 \pm \sqrt{5}}{2}$$

$$12. x = \frac{-9 \pm \sqrt{3}}{2}$$

$$13. x = \text{not a real number}$$

$$14. x = -5$$