Solving Quadratic Equations Using the Quadratic Formula

Quadratic Equation - An equation of the form $ax^2 + bx + c = 0$, where a, b and c are real numbers and $a \neq 0$.

Quadratic Formula - Used to solve a quadratic equation when factoring fails.

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

Step 1: Set the equation equal to zero.

Step 2: Identify a, b and c.

Step 3: Substitute a, b and c into the quadratic formula and solve for the variable.

Directions: Solve each quadratic equation by using the quadratic formula.

1. $2x^2 + 5x = 12$

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

3. $x^2 - 10x = -13$

4. $3x^2 = 2(x+2)$

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

6. $(x+6)^2 = -2x$