Solving Quadratic Equations by the Square Root Method

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

Step 1: Isolate the perfect square.
Step 2: Take the square root of both sides.
Step 3: Solve for the variable.

Directions: Solve each quadratic equation by the square root method.

1. $x^2 - 121 = 0$

2. $16x^2 - 1 = 0$

3. $49x^2 = 36$

4. $(x+15)^2 = 25$

5. $(3x+2)^2 = \frac{1}{4}$

6. $(2x-1)^2 = 20$

7. $(x+6)^2 = (x-1)^2$

8. $x^2 + 10x + 25 = 40$