Algebra 1   **9.4 Notes: Solving Quadratics with Square Roots**

Ex. 1: Solve to find the solutions of $x^2 = 49$

1) Undo the square root by doing the opposite operation.

2) Two numbers squared equal 49 – be sure to include all possible answers.
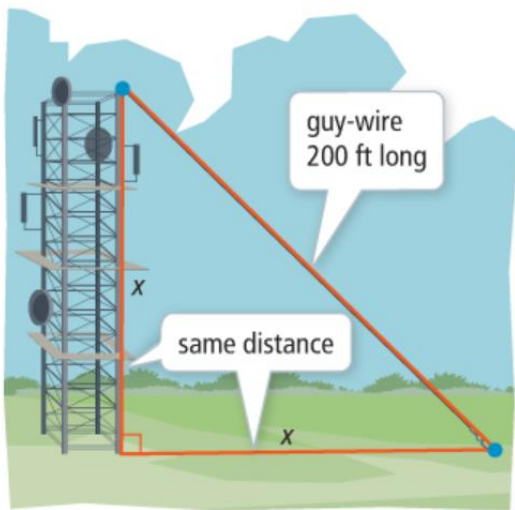
Ex. 2: Solve to find the solutions of $x^2 = -121$

Ex. 3: Solve to find the solutions of $3x^2 - 5 = 76$

1) You want to get the x^2 on one side and the number on the other.

2) Square root both sides.

3) Remember to think about how many solutions there should be.

Ex. 4: Solve to find the solutions of $5x^2 - 19 = 146$

You Try! Find the solutions to $3x^2 + 17 = 209$

Ex. 5: A cell phone tower has a guy-wire for support as shown. The height of the tower and the distance from the tower to where the guy-wire is secured on the ground are the same distance. What is the height of the tower?

guy-wire
200 ft long

x

same distance

x

You Try! Solve for x. $5x^2 = 3x^2 + 200$