

Name: _____ Date: _____

Solving Quadratics by Using Square Roots

Solve each quadratic equation.

1. $x^2 + 4 = 29$

2. $3x^2 - 7 = 47$

3. $x^2 + 11 = 16$

4. $(x + 4)^2 = 121$

5. $(x - 3)^2 = 9$

6. $(x - 7)^2 = 99$

7. $(x + 3)^2 + 6 = 18$

8. $3(x + 4)^2 = 9$

9. $(x + 4)^2 + 8 = 9$

Flip to back!!

Word Problems

Waterfalls: Angel Falls in Venezuela is the tallest waterfall in the world. Water falls uninterrupted for 2421 feet before entering the river below. The height h above the river in feet of water going over the edge of the waterfall is modeled by $h = -16t^2 + h_0$, where t is the time in seconds after the initial fall.

- A. Write an equation that models how long it will take for the water to hit the river at the bottom
- B. Estimate the time it takes for the water to reach the river.
- C. Ribbon Falls in California has a height of **1612 ft**. Approximately **how much longer does** it take water to reach the bottom when going over Angel Falls than when going over Ribbon Falls?