

Name: _____ Date: _____

HW: Solving quadratics by completing the square

1) $x^2 - 18x + 77 = 0$

2) $x^2 + 6x - 72 = -8$

3) $x^2 - 10x - 56 = 6$

4) $x^2 - 14x - 67 = 0$

5) $x^2 - 4x - 1 = 0$

Flip to the back!

APPLICATION PROBLEM

*NOTE: NOTE: NOTE: NOTE: This is NOT a completing the square problem. You can solve this problem using **method 2**: solving by square roots*

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?