

Quadratic Functions Applications Assignment



1.) Mr. Tapia is building a rectangular wading pool for his precious best friend, Buster. He wants the area of the bottom to be 54 ft^2 . He also wants the length of the pool to be 3ft longer than twice its width. What are the dimensions of Buster's pool?

Step 1: Draw a diagram

Step 2: Define the variable.

Step 3: What formula are you using? What are substituting into the formula?

Step 4: Write equation in standard form.

Step 5: Enter the function into the calculator and solve the equation for the width.
(x-intercepts or zeros)

Name _____ Date _____ Per _____

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2.) The formula for throwing a baseball in the air is represented by $h(t) = -16t^2 + 12t + 40$, where h is the height of the ball. After how many seconds will the ball hit the ground?

Step 1: Draw a diagram

Step 2: Define the variable.



Step 3: Enter the function into the calculator and solve the equation for the amount of seconds it will take the ball to hit the ground. (x-intercepts or zeros)

3.) The profit P in dollars for a company that produces anti-virus and system utilities software is modeled by the function, $P(x) = -0.0002x^2 + 140x - 250000$, where x is the number of units sold. How many units must you sell to gain maximum profit? What will the maximum profit be?

Step 1: What formula will you use to find the number of units that you must sell to gain max profit? Find the number of units. Show work.

Step 2: How will you use the number of units sold to find the max profit? Show work

