NAME _____ DATE _____

Module 14 Graphing Quadratic Relations
Lesson 3 Solving Problems Using Quadratic Graphs

guided notes

Lesson Objectives

- Use graphs of quadratic equations to solve problems.
- Use quadratic equations to solve problems.

The equation $h = -16t^2 + 32t + 6$ gave the height h of Newt's egg at any time t, assuming no air resistance. h represents height in feet and t represents time in seconds.

- In this equation, the constant term six represents the initial height, in feet, of Newt's egg.
- Thirty-two represents the initial velocity, in feet per second, of Newt's egg.
- The equation representing Ferd's egg toss and the equation representing Newt's egg toss both have –16 as the coefficient of t^2.

1. The equation to model Ferd's egg toss is $h = -16t^2 + 16t + 5$. Use the graph of that equation to estimate the time it takes to reach the maximum height.

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2. The equation to model Ferd's egg toss is $h = -16t^2 + 16t + 5$. Use the graph of that equation to estimate the maximum height reached by the egg.

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3 Use the graph of the equation $h = -16t^2 + 16t + 5$ to approximate the time Ferd's egg traveled before it hit the ground. _____

4 The path of a football thrown by Bret is given by the equation $y = -0.03x^2 + 0.9x + 6$, where x and y are measured in yards. What was the ball's horizontal distance from Bret when it reached its maximum height?

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