Assignment

Name _____ Date _____

Lots and Rockets
Introduction to Quadratic Functions

1. The length of a rectangle is 15 inches longer than its width.

a. Write an equation to represent the area of the rectangle.

b. If the width of the rectangle is 18 inches, what is the area?

3

c. If the length of the rectangle is 50 inches, what is the area?

Your science class launches a model rocket from the ground. The model rocket is launched upward with an initial velocity of 128 feet per second. The acceleration due to gravity is 32 feet per second squared.

2. Write an equation to model the distance the rocket travels. Let d be the distance and let t be the time in seconds.

3. How high will the rocket be after:

a. 1 second?

b. 3 seconds?

c. 4 seconds?

d. 6 seconds?

e. 7 seconds?

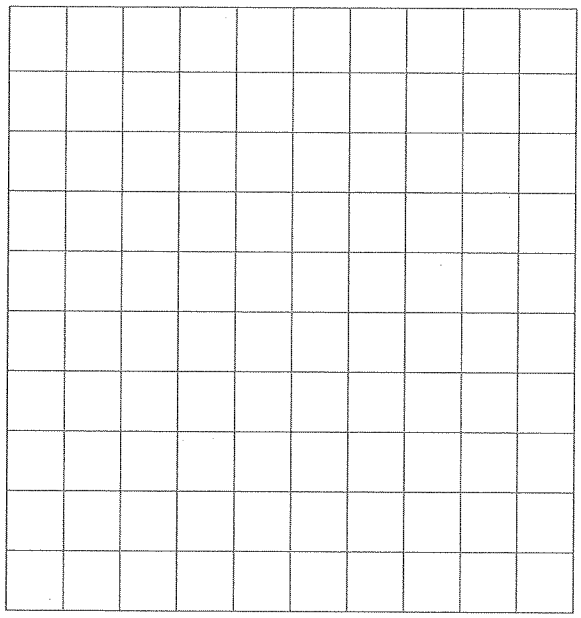
3

4. Use the information from Questions 1 and 2 to complete the table.

Quantity Name	Time	Height
Unit		
Expression	t	
	1	
	3	
	4	
	6	
	7	

Name_____ Date _____

5. Use the table in Question 4 to graph the height of the rocket versus the time.



6. Use the graph to approximate the maximum height of the rocket and the amount of time it takes for the rocket to reach its maximum height.

7. Use the graph to approximate the amount of time it takes for the rocket to reach the ground.