Name_____ Date_____

UNIT 8 **LESSON 14**

AIM: SOLVING WORD PROBLEMS USING QUADRATIC EQUATIONS-Day 3

1) A model rocket is launched from ground level. Its height, $h(t)$ meters above the ground, is a function of time t seconds after launch and is given by the equation $h(t) = -4.9t^2 + 68.6t$. How long is the rocket in air before it lands back on the ground

2) A group of friends tries to keep a beanbag from touching the ground without using their hands. Once the beanbag has been kicked, its height can be modeled by, $h(t) = -16t^2 + 24t + 40$ where $h(t)$ is the height in feet above the ground and t is the time in seconds. How many seconds will it take for the bean bag to reach the ground?

3) A boy tosses a ball into the air. The height of the ball is represented by the equation, $h(t) = -2.7t^2 + 13.5t + 14$ where $h(t)$ models the height of the ball in feet above the ground after t seconds. *To the nearest hundredth of a second*, at what time the ball hit the ground?

4) A student is recording the motion of a rocket as it is launched from the ground which can be modeled by the equation $h(t) = -15t^2 + 24t$, where $h(t)$ models the rocket's height in feet above the ground after t seconds. *To the nearest tenth of a second*, at what time the rocket hit the ground?

Name_____ Date_____

UNIT 9 HW#____ **LESSON 14**

1. A scientist records the motion of a dolphin as it jumps from the water which can be modeled by the equation $h(t) = -0.15t^2 + 0.4t + 2.8$, where h models the dolphin's height in feet above the water after t seconds. To the nearest tenth of a second, how long does it take for the dolphin to reenter the water?

2. Pierre throws a coin into the air from the top of the Eiffel Tower in Pairs. The coin's motion is described by the equation $y = -3.9x^2 + 19x + 300$, where y represents the height in meters and x represents the time in seconds. How long after being thrown upwards does the coin land, to the nearest tenth of a second?