HW: Quadratics Application Day 2

Name:

Solve the following problems involving the maximum or minimum values. Make sure you answer the question asked and LABEL you answers!!!

1. The height in feet of a rocket after t seconds is given by $h(t) = 224t - 16t^2$. Find the maximum height the rocket attains.

2. The height in feet of a rocket after t seconds is given by $h(t) = 192t - 16t^2$. After how many seconds does the rocket reach its maximum height?

3. Jason jumped off a cliff into the ocean in Acapulco while vacationing with his family. His height can be modeled by the function $h(t) = -16t^2 + 16t + 480$, where t is the time in seconds and h is the height in feet.
   a. How high was the cliff Jason was standing on?

   b. How long did it take Jason to reach his maximum height?

   c. What was the highest that Jason reached?

4. A lizard is jumping across the water in search of food. The equation $h(t) = -12t^2 + 6t$ models the lizard's height in feet above the water in t second after he jumps.

   a. What is the maximum height of the lizard?

   b. How long does it take the lizard to get to his maximum height.

5. Your friend passes you the ball during a soccer game. The initial velocity of the ball was 12 feet per second, with the height off the ground modeled by the equation
$h(t) = -4t^2 + 12t$

a. When did the ball hit its highest point?

b. How high did the soccer ball get?