Math-13 Sections 01 and 02

Homework #7

Due: Midnight 10/16

A ball is thrown upward off of a 100 ft cliff at a velocity of 64 ft/s. The equation of motion for the ball is:

$$h(t) = 100 + 64t - 16t^2$$

1. Using the derivative formulas, determine $h'(t)$.
2. Using your answer to part (1) (and not the vertex formula $-\frac{b}{2a}$), at what time does the ball reach its maximum height (hint: how fast is the ball going at that point)?
3. What is the balls maximum height?
4. How long before the ball hits the ground?
5. Note that you probably got two solutions (one positive and one negative) for the part (4), and you should have selected the positive one. What is the meaning of the negative solution (hint: what is the meaning of negative time)?