

Name _____ Date _____

Algebra 1B

8.11 Maximum/Minimum Problems WS Day 2

1. While playing catch with his grandson yesterday Tim throws a ball as hard as possible into the air. The height h , in feet, of the ball is given by $h(t) = -16t^2 + 64t + 8$, where t is in seconds.

a. How long will it take until the ball reaches the grandson's glove if he catches it at a height of 3 feet? (Round to the nearest tenth)

b. What is the maximum height of the ball?

2. A diver is standing on a platform 24 feet above the pool. He jumps from the platform with an initial velocity of 8 ft/sec. Use the formula $h(t) = -16t^2 + vt + s$ where h is the height above the water, t is the time in seconds, v is his starting velocity, and s is his starting height. How long will it take for him to hit the water? (Round to the nearest tenth)

3. Jon is hitting baseballs. When he tosses the ball into the air, his hand is 5 feet above the ground. He hits the ball when it falls back to a height of 4 feet. The height of the ball is given by $h(t) = 5 + 25t - 16t^2$, where t is time in seconds.

a. How much time will pass before Jon hits the ball?

b. At what time does the ball reach its maximum height? (Round to the nearest tenth)