

4. [7 points] Dog owner Malik recently bought an Extra-High-Flying Ball™ at the *Math-tas-tique Dog Boutique* for his extra-high-jumping Jack Russell Terrier.

On one particular throw, the ball's height, in feet, is given by:

$$h(t) = -16\left(t + \frac{1}{8}\right)(t - 3),$$

where  $t$  is the number of seconds after the ball left Malik's hand.

- a. [2 points] At what height was the ball when it was released Malik's hand?  
*Show all work. Give your final answer in decimal form, NOT exact form.*

height: \_\_\_\_\_ feet

- b. [3 points] What is the maximum height the ball reached and at what time did it reach that height?

*Show all work. Give your final answer in decimal form, NOT exact form.*

height: \_\_\_\_\_ feet

time: \_\_\_\_\_ seconds

- c. [2 points] Assuming the ball wasn't caught on its way down, how many seconds, total, was the ball in the air?

time in the air: \_\_\_\_\_ seconds