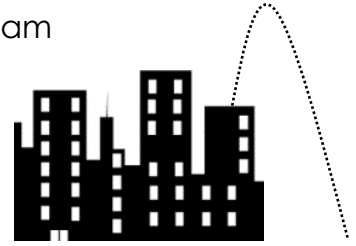Name:_____ Date:_____

APPLICATION: Throwing a Batarang

Batman is standing on stop of a building in Gotham city. He throws a batarang in an arc to hit a sewer lid on the ground. The path of the batarang can be modeled by the equation $d = -16t^2 + 96t + 100$.

a. How tall is the building that Batman throws his batarang from?

b. How high is the batarang after 2 seconds?

c. How high the batarang after 4 seconds?

d. How many seconds will it take for the batarang to hit the sewer? **HINT: You will need to use the quadratic formula because it is not an EXACT zero!** *ALSO since this is a word problem you can give your answer as a decimal rounded to the tenth place (meaning you can just find the decimal or your radical without simplifying)*