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**Lab Time:**

**Your Name:**

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This quiz is designed to illuminate your understanding of Higher Degree Taylor Polynomials.

**Please state the answer to EACH of parts a, b, and c in sentence form.**

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1. (10 points) Suppose there is some unknown function  $f(t)$  that outputs the distance a certain plane is from Albuquerque, NM. We do know that the plane, at time  $t = 0$  is at location  $f(0) = 10$  miles from Albuquerque, NM.

a. If you know the velocity of the plane is  $f'(0) = 10$  miles/min, predict its location at time  $t = 2$ .

b. If, in addition to the plane's velocity as given in part (a), you also know that its acceleration,  $f''(0) = 2$  miles/min, predict its location at time  $t = 2$ .

c. Which prediction do you think is more accurate and why?