AP Calculus AB Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lessons 4-4 & 4-5 Learning Check Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**NO CALCULATOR (*except problem 3*)**

1. Use the linear approximation of at to estimate the value of the function at.

 Explain what you just found.

2. Find the equation of the tangent line to at .

3. Find the minimum distance from the curve to the point .

That is, minimize the distance between .

 The distance formula is .

 **CALCULATOR ACTIVE.** Justify your solution.

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4.

5.

 Which of the above statements is/are true for the graph of *f* ?

6. If a function *g* is differentiable on the interval , then which of the following statements must be true?

 (A) *g* is not continuous on

 (B) *g* is not differentiable on

 (C) for some *c* on 

 (D) The conclusion of the Mean Value Theorem applies to *g.*

 (E) None of these