**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**AP Calculus 1, Mrs. Sulkes**

**December 11th, 2012**

**Rolle’s Theorem and Mean Value Theorem - Practice**

1. On the interval [-5,5], there is no point at which the derivative of *f* (*x*) =|*x*| is equal to zero, even though *f* (- 5) = *f* (5) . Is this a contradiction of Rolle's Theorem? Explain your answer.
2. Find the number *c* that satisfies Rolle's Theorem for *f* (*x*) = cos(*x)*  on the interval 
3. An SUV enters the Florida Turnpike at noon and heads north. A camera takes a picture of the SUV at 1:50, 121 miles from when the SUV first entered the turnpike. Prove, using one of the theorems, that at some moment the SUV was going over 65 mph.
4. Suppose that and  for all values of *x*. How large can *f(2)* possibly be?
5. Find a point c satisfying the conclusion of the MVT for the given function and interval.
6.  , [0,3]
7. Does the Mean Value Theorem apply to the function  on the interval [1,2]? Why or why not? If yes, find c value(s) that satisfy the conclusion of the MVT.