

Math 165: Honors Calculus I

Name: _____

Quiz 9 *November 18, 1999*

1. Show that if f is continuous at p , then there is an interval $[a, b]$ containing p such that the $\text{span}_{[a,b]} f < 1$.

2. Give the definition of the derivative of a function $f(x)$.

3. a) State the WEIGHTED MEAN VALUE THEOREM FOR INTEGRALS.

b) Use a) to show that $\frac{\sqrt{2}}{3} \leq \int_0^1 \sqrt{\frac{x}{1+x^4}} dx \leq \frac{2}{3}$.