

Math 151**Quiz 3**

Show all work in a neat and organized fashion. Clearly indicate your answers.
10 points possible.

TI-89 or TI-92 not permitted on this quiz.

1. (3 pts.) The displacement (in feet) of a certain particle moving in a straight line is given by $s = t^3/6$, where t is measured in seconds. Find the average velocity over the time period $[1, 1.1]$.

2. (4 pts.) For the function f whose graph is given, state the value of the given quantity, if it exists. If it does not exist, explain why.

(a) $\lim_{x \rightarrow 3^-} f(x)$

(b) $\lim_{x \rightarrow 3^+} f(x)$

(c) $\lim_{x \rightarrow 3} f(x)$

(d) $f(3)$

3. (3 pts.) Evaluate this limit, showing all algebraic steps.

$$\lim_{h \rightarrow 0} \frac{(4+h)^3 - 64}{h}$$