

Math 132

Quiz IC

Name:

Sec:

Serial:

1. Find

$$\lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h},$$

where $f(x) = \sqrt{x+4}$.

2. Let $f(x) = \begin{cases} 3 & \text{if } x > 4 \\ -x & \text{if } x \leq 4 \end{cases}$. Find the following

(a) $\lim_{x \rightarrow 4^+} f(x)$

(b) $\lim_{x \rightarrow 4^-} f(x)$

(c) $\lim_{x \rightarrow 4} f(x)$

(d) $\lim_{x \rightarrow \infty} f(x)$

(e) $\lim_{x \rightarrow -\infty} f(x)$

3. Find the value(s) of x for which $f(x) = \frac{x+2}{x^3+5x^2+6x}$, is discontinuous.

4. If a manufacturer's average cost equation is

$$\bar{c} = 1000 + 10q + 0.2q^2.$$

Find the marginal cost function? What is the marginal cost when 10 units are produced?