

Math151 - Calculus I - Fall 2004

Quiz #3, October 18, 2004

In the following problems you are required to show all your work and provide the necessary explanations everywhere to get the full credit.

1. Find the limits that exist. If the limit does not exist, explain why.

$$(a) \lim_{x \rightarrow 3^-} \frac{x+1}{x-3}$$

$$(b) \lim_{x \rightarrow -5^+} \frac{2 + \sqrt{7+x}}{5+x}$$

$$(c) \lim_{x \rightarrow -2} \frac{x}{(2+x)^4}$$

$$(d) \lim_{x \rightarrow 1} \frac{1 - \sqrt{x-1}}{1 + \sqrt{x}}$$

$$(e) \lim_{x \rightarrow 5} \frac{x-4}{5-x}$$

2. Find a formula for the inverse of the function. If the inverse does not exist, explain why.

(a) $f(x) = \sqrt{7 - 11x}$

(b) $f(x) = 1 + 2x^2$

(c) $f(x) = x^2 + 3, x < -1$