

Math 241 Fall 2017

Quiz 2

Name: _____

Show all work and circle/box your final answer. All answers must be simplified unless stated otherwise. Turn in when done.

1. (5 points) Find the following limits:

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

(b) $\lim_{x \rightarrow \infty} \frac{5x^3 + 7x + 9}{4x^5 + 7}$

2. (5 points) Determine where $f(x)$ is continuous if $f(x) = \begin{cases} 4 + x & x \leq 0 \\ x^2 - 4x + 8 & 0 < x \leq 3 \\ 2x - 1 & 3 < x \end{cases}$

(a) $\lim_{x \rightarrow 0^+} f(x)$

(b) $\lim_{x \rightarrow 0^-} f(x)$

(c) Does $\lim_{x \rightarrow 0} f(x)$ exist? If yes, what is its value? If no, explain why.