Math 241 Fall 2018 Professor MG
Quiz 2 Name: _____

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

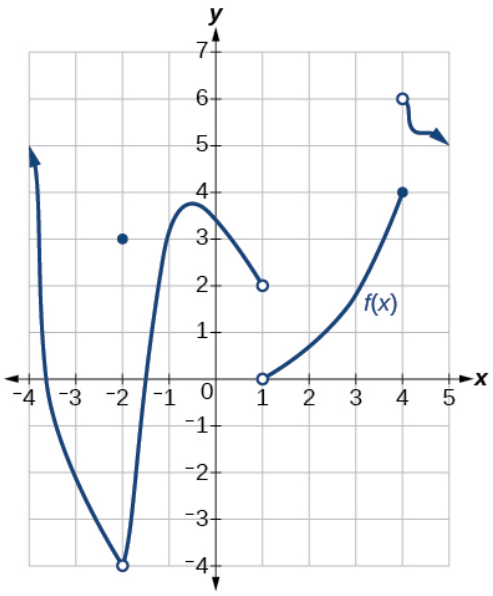
1. (*5 points*) Find the following limits for $f(x) = \begin{cases} 4+x & x \leq 0 \\ x^2 - 4x + 8 & 0 < x \leq 3 \\ 2x - 1 & 3 < x \end{cases}$

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

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

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

2. (*5 points*) Find $\lim_{x \to a} f(x)$ for the following values of a. If the limit does not exist, find $\lim_{x \to a^+} f(x)$ and $\lim_{x \to a^-} f(x)$



(a) $a = -2$

(b) $a = 1$

(c) $a = 4$