Quiz 1 **Name:** Key

Instructions: Show all work and simplify your answers! Correct answers without work will receive zero points. Also, points will be taken from messy solutions. **Good Luck!** ☺

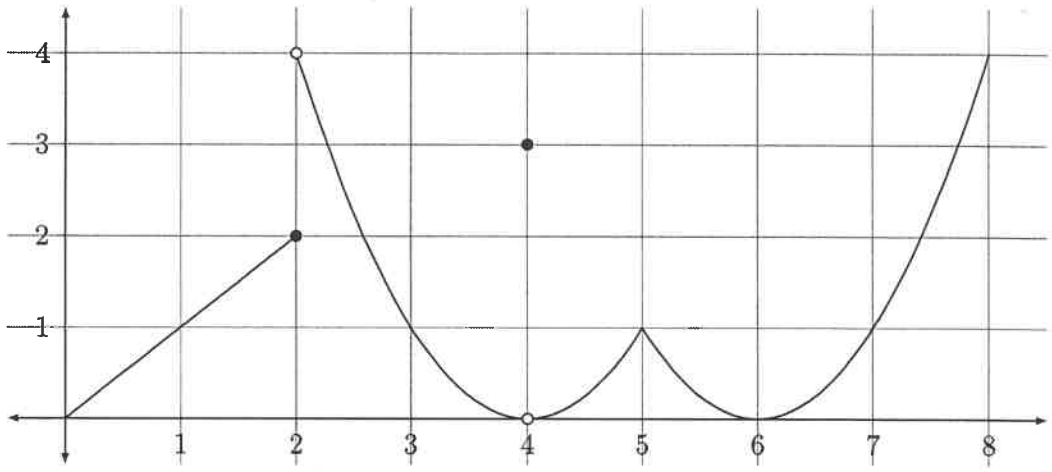

Figure 1: Graph of $f(x)$

1. Find the following:

$\lim_{x\to 2^-} f(x) =$ 2 $\quad \lim_{x\to 2^+} f(x) =$ 4

$\lim_{x\to 2} f(x) =$ DNE $\quad f(2) =$ 2

$\lim_{x\to 4^-} f(x) =$ 0 $\quad \lim_{x\to 4^+} f(x) =$ 0

$\lim_{x\to 4} f(x) =$ 0 $\quad f(4) =$ 3

$\lim_{x\to 5^-} f(x) =$ 1 $\quad \lim_{x\to 5^+} f(x) =$ 1

$\lim_{x\to 5} f(x) =$ 1 $\quad f(5) =$ 1

Points:_____

2. Where is $f(x) = \ln\left(\frac{1}{4-x}\right) + \sqrt{x}$ continuous?

$\frac{1}{4-x} > 0 \Rightarrow 4-x > 0 \Rightarrow x < 4$

$x \geq 0 \Rightarrow 0 \leq x < 4$ or $[0, 4)$

Points:_____