MATH 150A-QUIZ 5, WINTER 2020

Name: _____

1. Consider a function $f : I \to \mathbb{R}$ and let $\xi \in I$ be an interior point.
   (1) (2 pts) State the definition that f has a right limit at ξ. Similarly, state the definition that f has a left limit at ξ.
   (2) (2 pts) State the defintion that f is continuous at ξ.
   (3) (1 pt) Suppose that f has both left and right limit at ξ. Use graphs to list all the possible cases where f is not continuous at ξ.

2. (5 pts) Show by definition that the function $f(x) = |x| : \mathbb{R} \to \mathbb{R}$ is continuous on $\mathbb{R}$.