Quiz 4 **Name:** _____
Week 5: 02/11/2020
Math 285: Spring 2020
Instructor: Garrett Hartshaw

Instructions:
Please answer the questions below. Show all your work. You may use a TI-84/85 (or equivalent) calculator.

The following is a graph of the function $f(x)$.

Problem 1. (6 points) Is $f(x)$ continuous at the following points? If it is discontinuous, state why.

a) $x = 0$.

b) $x = 2$.

c) $x = 4$.

d) $x = 6$.

Problem 2. (6 points) Is $f(x)$ differentiable at the following points? If differentiable, is the derivative positive, negative, or zero? If not differentiable, state why.

a) $x = 0$.

b) $x = 2$.

c) $x = 3$.

d) $x = 5$.

Problem 3. (8 points) Using the limit definition to find the derivative of $f(x) = x^2 + x$.