Classwork 2

THE CITY UNIVERSITY
OF NEW YORK

College of
Staten Island

Name: _____

1. The graph of $y = f(x)$ is shown below. Find the points at which f is discontinuous and classify the discontinuity (removable, jump or infinite).
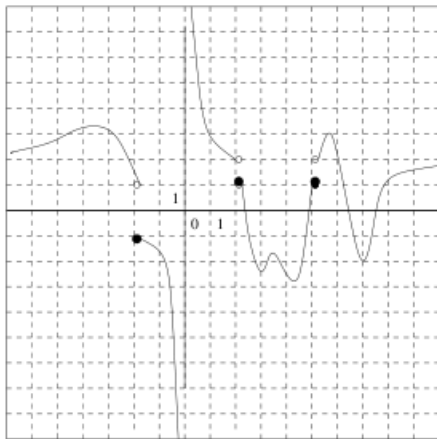
2. Evaluate $\lim\limits_{x \to 4} \dfrac{\sqrt{x} - 2}{x - 4}$. Is this a instantaneous rate of change ? If so write $f(x)$ and the point.

3.

$$f(x) = \begin{cases} x - 4 & \text{if} & x \geq 4 \\ x + 1 & \text{if} & -3 \leq x < 4 \\ x + 4 & \text{if} & x < -3 \end{cases}$$

Evaluate

- $\lim\limits_{x \to 4^-} f(x) =$

- $\lim\limits_{x \to -3^-} f(x) =$

- $\lim\limits_{x \to 4^+} f(x) =$

- $\lim\limits_{x \to -3^+} f(x) =$

Is $f(x)$ continuous at $x = 4$?

Is $f(x)$ continuous at $x = -3$?