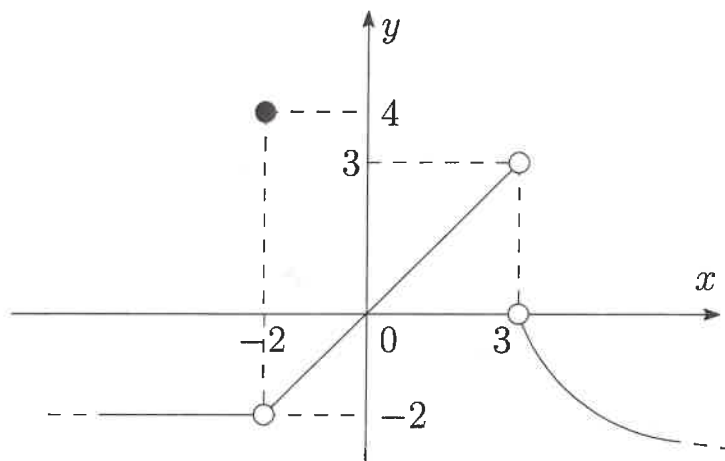# QUIZ I

First Name: Last Name:

1. (5 points)

Given below is the graph of a function f.

Compute the following quantities. If a quantity does not exist or is undefined, **explain why**.

- $f(-2) = 4$

- $f(3) =$ undefined because 3 does not belong to the domain of f

- $\lim\limits_{x \to -2^+} f(x) = -2$

- $\lim\limits_{x \to 3^+} f(x) = 0$

- $\lim\limits_{x \to -2^-} f(x) = -2$

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

- $\lim\limits_{x \to -2} f(x) = -2$

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

2. (5 points)

Sketch the graph of a function f that satisfies **all** the following conditions:

- $\lim\limits_{x \to 1^-} f(x) = 3$,

- $\lim\limits_{x \to 1^+} f(x) = -2$,

- $f(1) = -5$,

- $f(-4) = 0$,

- $\lim\limits_{x \to -4} f(x) = 1$.

Make sure that your graph is the graph of a function, i.e., that it passes the vertical line test.