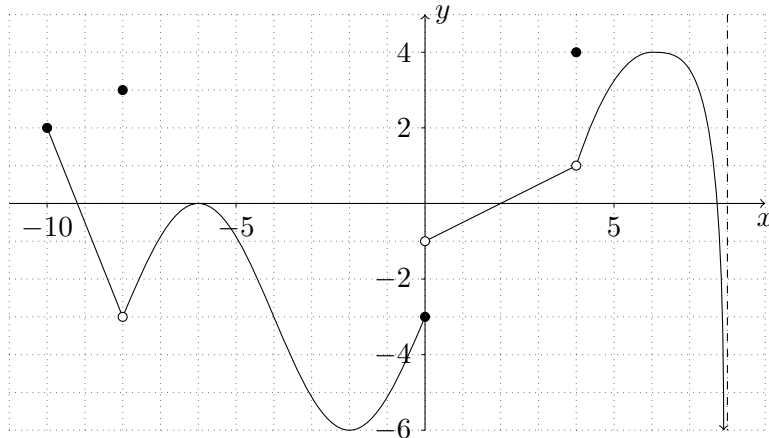Name: _____

Math 108
Spring 2024
Dr. Lily Yen

Quiz Three
Show all your work

Number: _____

Signature: _____

Score: ___/10

Problem 1: Shown is the graph of $y = f(x)$. Answer the following questions.

a. State all value(s) of x in the domain where f is discontinuous.

d. $\displaystyle \lim_{x \to 3.1415} \frac{f(x) - f(3.1415)}{x - 3.1415} =$

e. $\displaystyle \lim_{h \to 0^+} \frac{f(-8 + h) - f(-8)}{h} =$

b. $f'(-9) =$

f. $\displaystyle \lim_{x \to 4} \frac{f(x) - f(4)}{x - 4} =$

c. $\displaystyle \lim_{x \to -2} \frac{f(x) - f(-2)}{x + 2} =$

Score: /6

Problem 2: Find the derivatives of the following functions.

a. $f(x) = (x^3 + 3)(5 - x^4)$

b. $g(x) = \dfrac{\pi x^5 - 4}{6x + 1}$

Score: /4