Math 108
Spring 2024
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Quiz Two a
Show all your work

Score: ___/8

Problem 1: Answer the following questions based on the following piece-wise defined function, f.

$$f(x) = \begin{cases} 5 - x^2, & x < -2 \\ \frac{3}{4}, & x = -2 \\ x + 4, & x > -2 \end{cases}$$

a. $\displaystyle\lim_{x \to -2^-} f(x) =$

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

c. $f(-2) =$

d. Is f continuous at $x = -2$? Draw the function.

Score: ___/4

Problem 2: Use the definition of the derivative to find $g'(a)$ for $g(x) = \sqrt{x - 1}$.

Score: ___/4