Math 131 - Quiz 2

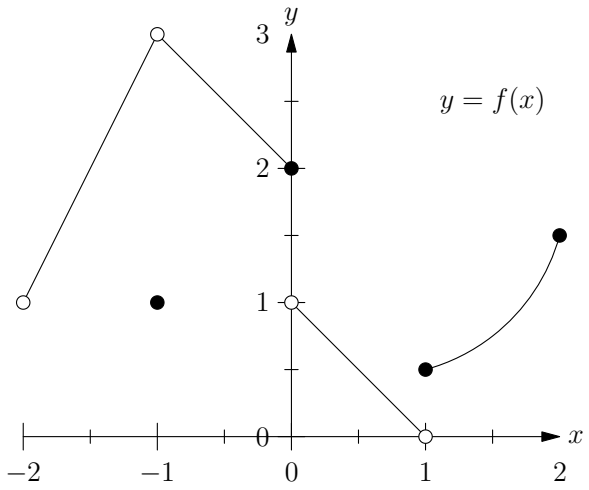
Name _____

August 30, 2023

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (5 points) Referring to the graph shown below, determine each of the following or explain why it does not exist.



(a) $\lim_{x \to -1} f(x)$

(b) $\lim_{x \to -2} f(x)$

(c) $\lim_{x \to 1} f(x)$

(d) $\lim_{x \to 1/2} f(x)$

(e) $f(-1)$

Turn over.

2. (3 points) Suppose that $\lim_{x\to 2} f(x) = 3$ and $\lim_{x\to 2} g(x) = -7$. Find each limit. Show work or explain your reasoning.

   (a) $\lim_{x\to 2} [4f(x) - 2g(x)]$

   (b) $\lim_{x\to 2} \dfrac{x^2 f(x)}{g(x) - 7}$

3. (1 point) Evaluate the limit: $\lim_{x\to \pi/3} [6\cos x]$

4. (1 point) Explain why direct substitution cannot be used to evaluate $\lim_{x\to \pi/2} \tan x$.