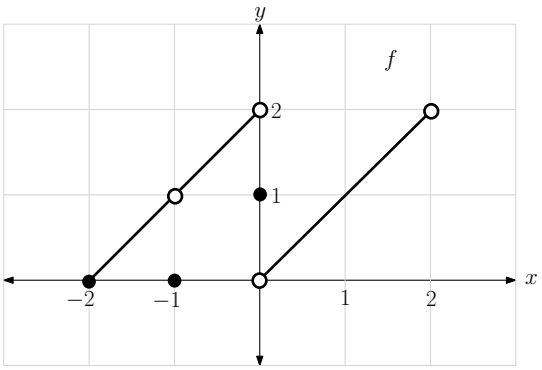
Score: _____ out of 10.

Math 201 - Quiz #2 Name: _____

1. Use the graph of the given function $y = f(x)$ below to compute the following limits (if they exist):



(a) $\lim_{x \to -1^-} f(x) =$ ☐

(b) $\lim_{x \to -1^+} f(x) =$ ☐

(c) $\lim_{x \to -1} f(x) =$ ☐

(d) $\lim_{x \to 0^-} f(x) =$ ☐

(e) $\lim_{x \to 0^+} f(x) =$ ☐

(f) $\lim_{x \to 0} f(x) =$ ☐

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2. (a) $\lim_{x \to -5^+} \dfrac{7+x}{x+5} =$ ☐

(b) Part (a) shows that the function $f(x) = \dfrac{7+x}{x+5}$ has a vertical asymptote at $x =$ ☐

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3. If $r(x) = \dfrac{f(x)}{g(x)}$ and $g(x) = 0$, then there is a vertical asymptote at x. Circle one: | True | False |

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4. **Pick ONE of the following (please circle which one you will solve)**. Otherwise, I will grade the first one you work on. You must show work on this problem.

(a) $\lim_{x \to -3} \dfrac{x^2 - 9}{x^2 + 5x + 6}$

(b) $\lim_{x \to 7} \dfrac{\sqrt{x+2} - 3}{x - 7}$

(c) $\lim_{x \to -4} \dfrac{\frac{1}{4} + \frac{1}{x}}{4 + x}$

Please put your final answer in this box $\longrightarrow$ ☐