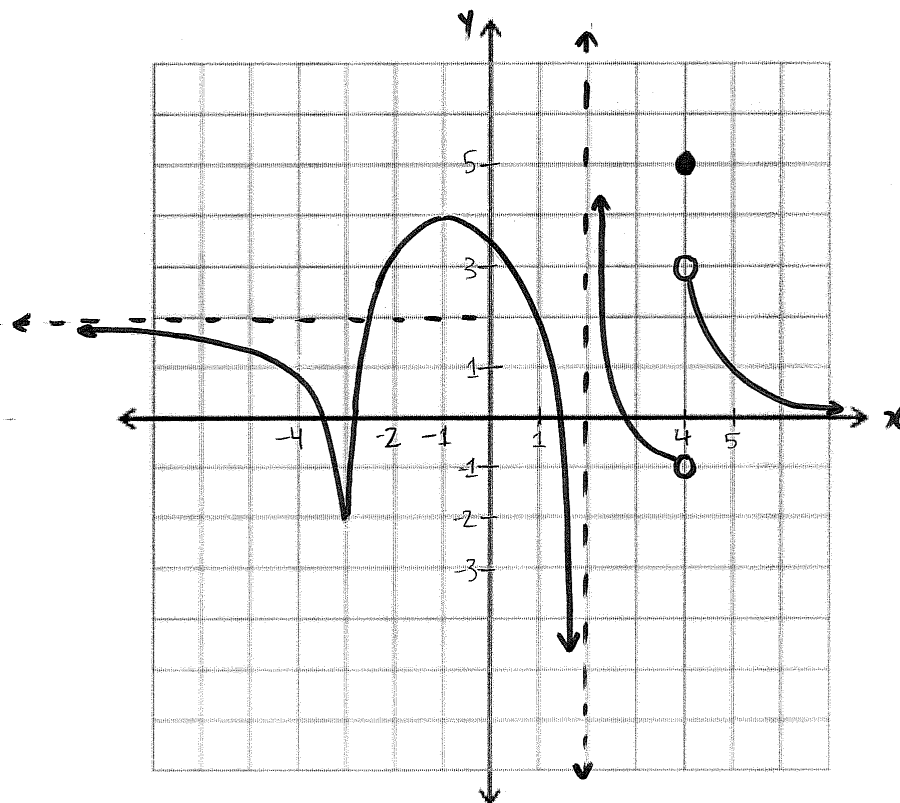


Quiz 2A, Business Calculus

Fall 2014 - Dr. Graham-Squire

Name: _____

1. (5 points) Use this graph of $f(x)$ to find the value of the expressions given below



- (a) Estimate the value of the derivative at $x=-4$, that is, find $f'(-4)=$
- (b) $\lim_{x \rightarrow 4^-} f(x) =$
- (c) $\lim_{x \rightarrow 2^+} f(x) =$
- (d) $\lim_{x \rightarrow \infty} f(x) =$
- (e) $\lim_{x \rightarrow (-1)} f(x) =$

2. (2 points) Calculate the limit. Make sure to show your work and use correct notation to receive full points!

$$\lim_{x \rightarrow (-\infty)} \frac{2x^3 + 3x - 7}{5 + 2x^2 - 3x^3}$$

3. (3 points) Find the value of k that will make the function continuous at $x = -1$. Make sure to use correct notation and explain/show your work. You must reference the definition of continuity in order to receive full points.

$$f(x) = \begin{cases} \frac{x^2 - 3x - 4}{x + 1} & \text{if } x < -1 \\ k & \text{if } x \geq -1 \end{cases}$$