

Name: _____

QUIZ 4

MATH 200, SECTION 9

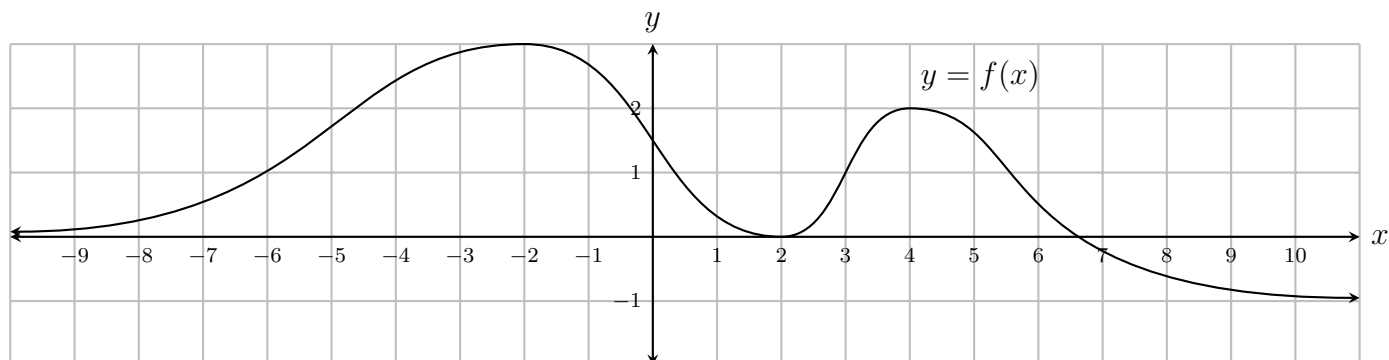
February 19, 2021

Directions: Closed book, closed notes, no calculators.

Each problem is 10 points, for a total of 20 points.

By submitting this quiz you affirm that you agree with this statement: *On my honor, I have neither given nor received unauthorized aid on this assignment, and I pledge that I am in compliance with the VCU Honor System.*

1. Answer the following questions involving the function $f(x)$ graphed below.



(a) $\lim_{x \rightarrow -\infty} f(x) =$

(d) $\lim_{x \rightarrow 2} \frac{1}{f(x)} =$

(b) $\lim_{x \rightarrow -\infty} f\left(\frac{1}{x} + 3\right) =$

(e) $\lim_{x \rightarrow 4} \frac{x}{1 - f(x)} =$

(c) $\lim_{x \rightarrow 2} \ln(f(x)) =$

2. Sketch the graph of **one** function f , continuous on $(-\infty, 2) \cup (2, \infty)$, meeting **all** of these criteria:

- (a) The line $y = 2$ is a horizontal asymptote

(b) $\lim_{x \rightarrow \infty} f(x) = 0$

(c) $\lim_{x \rightarrow 0} f(x) = -\infty$

(d) $\lim_{x \rightarrow 2^-} f(x) = \infty$

(e) $\lim_{x \rightarrow 2^+} f(x) = -\infty$

