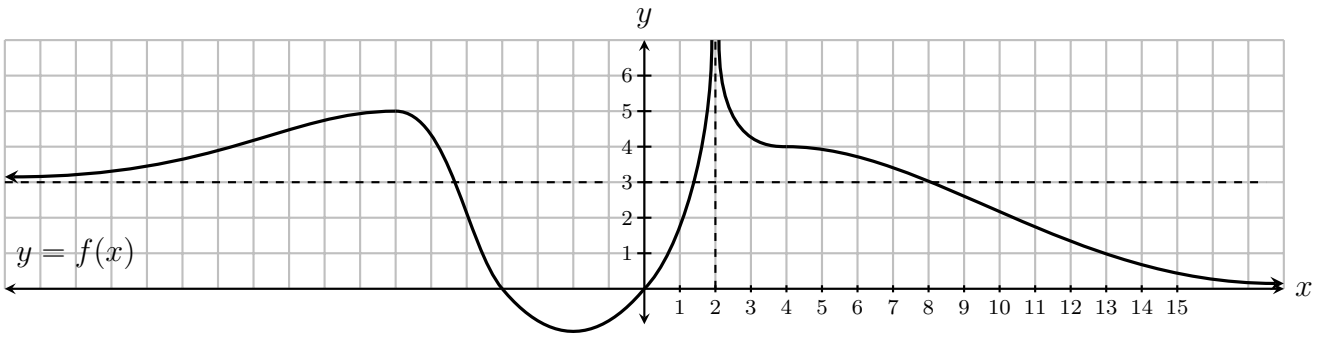
Name: _____

Quiz 4 ♣

MATH 200
September 14, 2022

1. (8 points) Answer the following questions about the function $y = f(x)$ graphed below.



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

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

(c) $\lim_{x \to -\infty} \sin\left(\frac{\pi}{f(x)}\right) =$

(d) $\lim_{x \to \infty} \frac{1}{f(x)} =$

(e) $\lim_{x \to 2} f(x) =$

(f) $\lim_{x \to 2} e^{-f(x)} =$

(g) $\lim_{x \to 0^+} \frac{1}{f(x)} =$

(h) $\lim_{x \to 0^-} \frac{1}{f(x)} =$

2. (4 points) $\lim_{x \to -\infty} \ln\left(1 + \frac{1}{x^2}\right) =$

3. (4 points) $\lim_{x \to \infty} \frac{3x^2 + 2x + 1}{-4x^2 + 4x + 5} =$

4. (4 points) $\lim_{x \to 2} \frac{x^2 + 2x + 1}{(x-2)^2} =$