

Name: \_\_\_\_\_

## QUIZ 1

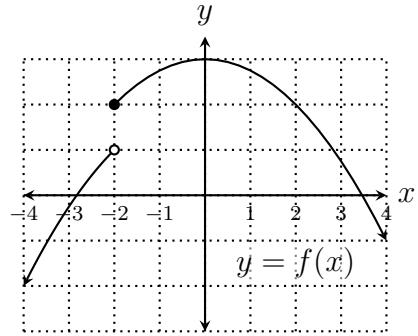


MATH 200

August 21, 2025

1. Answer the questions about the functions  $f(x)$  and  $g(x)$  graphed below.

(a)  $\lim_{x \rightarrow -2^+} 3f(x) =$

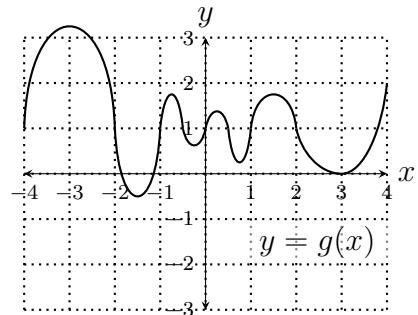


(b)  $\lim_{x \rightarrow 2} f(x)g(x) =$

(c)  $\lim_{x \rightarrow 0} (f(x) + g(x)) =$

(d)  $\lim_{x \rightarrow 2} \frac{\log_4(x)}{f(x)} =$

(e)  $\lim_{x \rightarrow 0} (f(x) + g(x))^{3/2} =$

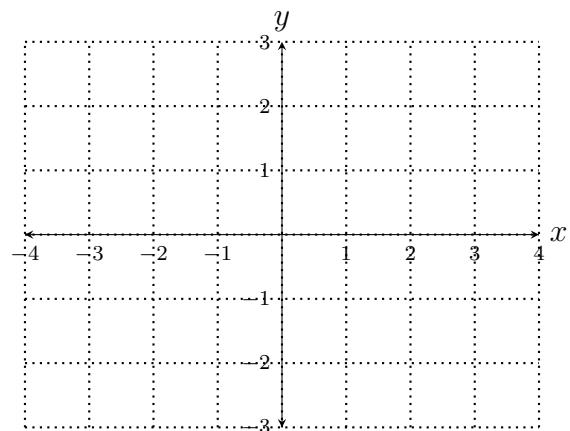


2.  $\lim_{x \rightarrow -3} \frac{5x^2 - x + 3}{2x + 7} =$

3.  $\lim_{x \rightarrow 5} \frac{1}{\sqrt{x} + \sqrt{5}} =$

4. Draw the graph of **one** function  $f$ , with domain  $[-4, 2) \cup (2, 4]$ , meeting the following conditions.

(a)  $\lim_{x \rightarrow 2^+} f(x) = 2$



(b)  $\lim_{x \rightarrow 2^-} f(x) = -1$

(c)  $\lim_{x \rightarrow -2} f(x) = \frac{3}{2}$

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

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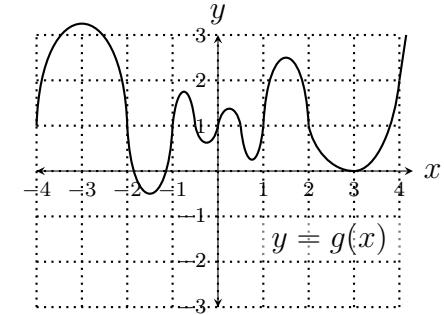
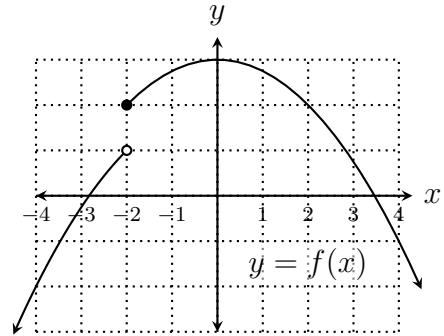
(a)  $\lim_{x \rightarrow -2^-} 3f(x) =$

(b)  $\lim_{x \rightarrow 2} (f(x) + g(x)) =$

(c)  $\lim_{x \rightarrow 0} \frac{g(x)}{f(x)} =$

(d)  $\lim_{x \rightarrow 0} \sqrt{f(x)g(x)} =$

(e)  $\lim_{x \rightarrow 4} \frac{\log_4(x)}{g(x)} =$



2.  $\lim_{x \rightarrow 2} \frac{2x+7}{5x^2-x+3} =$

3.  $\lim_{x \rightarrow 3} \frac{\sqrt{3}}{\sqrt{x} + \sqrt{3}} =$

4. Draw the graph of **one** function  $f$ , with domain  $[-4, 0] \cup (0, 4]$ , meeting the following conditions.

(a)  $\lim_{x \rightarrow 0^+} f(x) = 1$

(b)  $\lim_{x \rightarrow 0^-} f(x) = -2$

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

(d)  $\lim_{x \rightarrow 1} f(x) = 0$

