

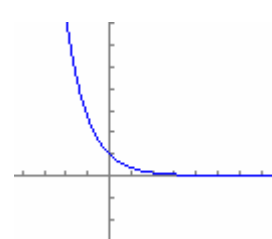
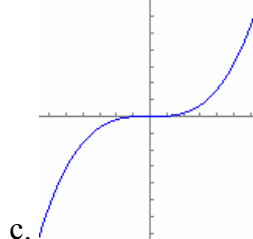
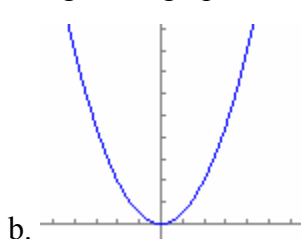
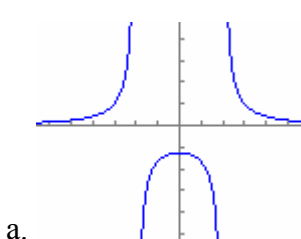
Sample Questions to the Final Exam in Math 1111—Chapter 4

Section 4.1

- Find the vertical asymptote(s) for the rational function: $f(x) = \frac{x+3}{x^2+9}$.
 a. $x = -3$ b. $x = \pm 3$ c. $y = -3$ d. $y = \pm 3$ e. No vertical asymptotes
- Find the vertical asymptote(s) for the rational function: $f(x) = \frac{x+5}{x^2-16}$.
 a. $y=4$ b. $x=4$ and $y=4$ c. $x=4$ d. $x = \pm 4$ e. No vertical asymptotes
- Find the vertical asymptote(s) for the rational function: $f(x) = \frac{2x-5}{3x^2+7x-6}$.
 a. $x = \frac{2}{3}$ b. $y = -3$ c. $x = \frac{2}{3}$ and $y = -3$ d. $x = \frac{2}{3}$ and $x = -3$ e. $y = \frac{2}{3}$ and $y = -3$
- Find the horizontal asymptote(s) for the rational function: $f(x) = \frac{3x-2}{5x^2-7x+3}$.
 a. $x = \frac{3}{5}$ b. $y = 0$ c. $y = \frac{3}{5}$ d. $x = 0$ e. No horizontal asymptotes
- Find the horizontal asymptote(s) for the rational function: $f(x) = \frac{3x^3+1}{(x-2)(x+1)}$.
 a. $x = -1$ and $x = 2$ b. $y = -1$ and $y = 2$ c. $x = -3$ d. $y = -3$ e. No horizontal asymptotes
- Find the horizontal asymptote(s) for the rational function: $f(x) = \frac{2-5x^3+x^2}{3x^3-2x^2+1}$.
 a. $x = -\frac{5}{3}$ b. $y = -\frac{5}{3}$ c. $x = 1$ d. $y = 0$ e. No horizontal asymptotes

Section 4.2

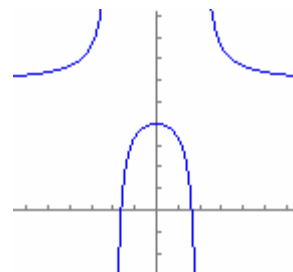
- Which of the following is the graph of a rational function?



e. None of these

- This is the graph of a rational function. Find the y-intercept.

- a. $\{-2, 2\}$ b. $\{-2\}$ c. $\{2\}$ d. $\{4\}$ e. None of these



- Given the graph, find the vertical asymptote(s).

Note: The x-axis and y-axis are labeled with a dot every 1 unit.

- a. $\{-2\}$ b. $\{-2, 2\}$ c. $\{2\}$ d. $\{0\}$ e. None of these

