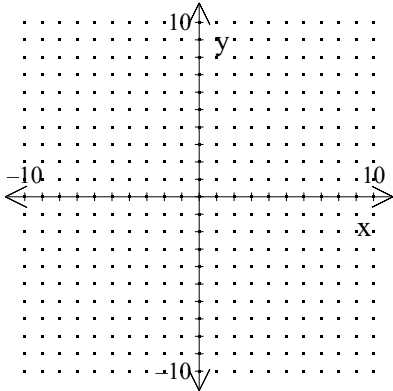


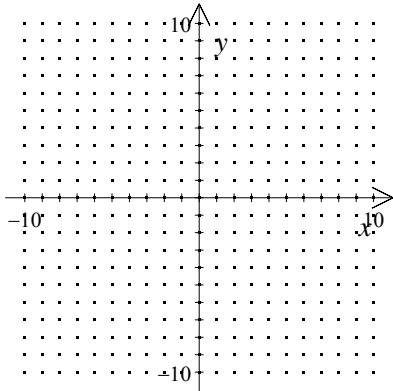
NAME: _____

1. Use a graphing calculator to graph $y = \frac{2}{x}$ and $y = \frac{2}{x^2}$. Make a sketch of the graph. What is the vertical asymptote of each function?



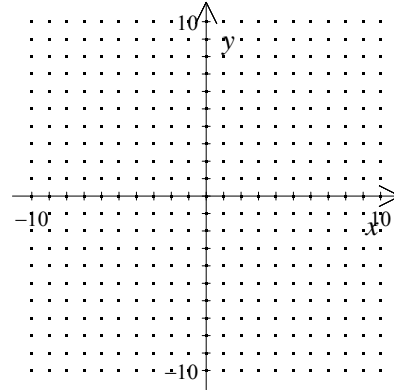
[1] _____

2. Sketch a graph of $f(x) = \frac{-3x-1}{x+4}$. Include any vertical or horizontal asymptotes.



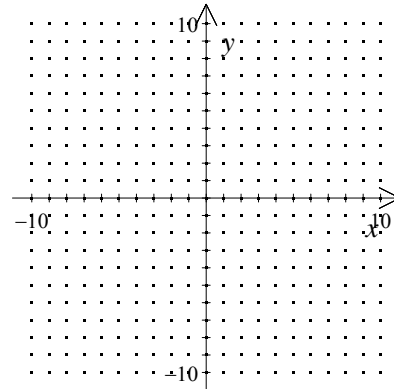
[2] _____

3. Sketch a graph of $f(x) = \frac{-2x-3}{x-1}$. Include any vertical or horizontal asymptotes.



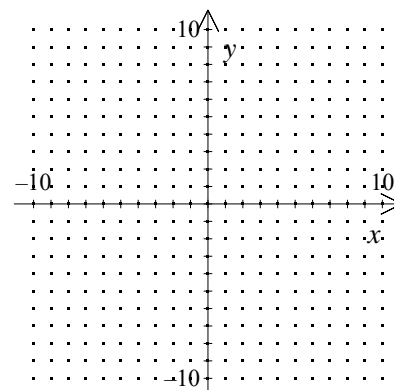
[3] _____

4. Sketch a graph of $f(x) = \frac{x+1}{x-2}$. Include any vertical or horizontal asymptotes.



[4] _____

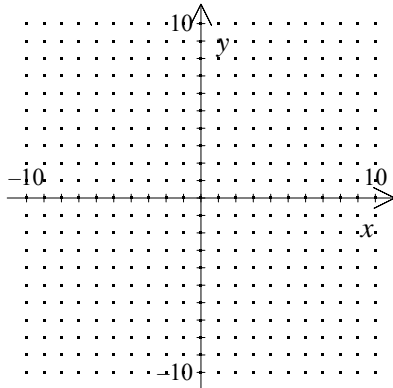
5. Locate the asymptotes and graph the rational function $f(x) = -\frac{1}{x^2-16}$.



[5] _____

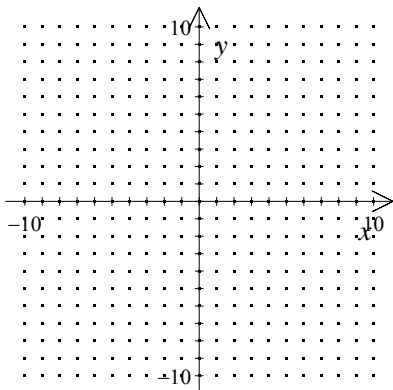
NAME: _____

6. Locate the asymptotes and graph the rational function $f(x) = -\frac{4}{x^2 - 25}$.



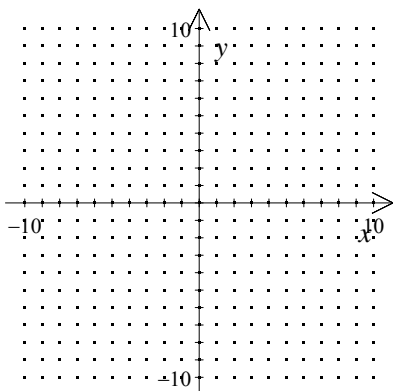
[6] _____

7. Graph the rational function $f(x) = \frac{-2x^2 + x - 1}{x^2 - 1}$.



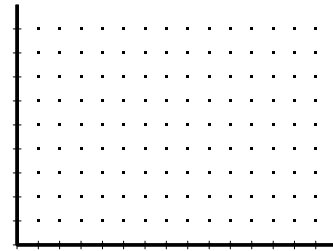
[7] _____

8. Graph the rational function $f(x) = \frac{-4x^2 + 5x - 4}{x^2 - 4}$.



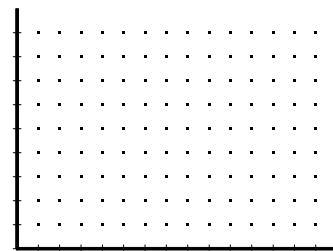
[8] _____

9. A new computer game costs \$145,000 to research and develop. Once completed, individual games can be produced for just \$0.35 each. If the first 200 are given away as samples, write and graph a function $C(x)$ for the average cost of disks that will be sold to customers. How many games must be sold for the average price to drop below \$1? (Hint: when graphing, use large values for your x -axis)

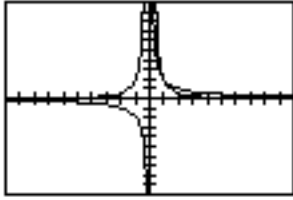


[9] _____

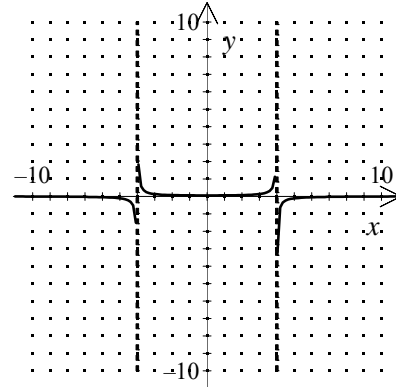
10. A new computer game costs \$157,500 to research and develop. Once completed, individual games can be produced for just \$0.40 each. If the first 150 are given away as samples, write and graph a function $C(x)$ for the average cost of disks that will be sold to customers. How many games must be sold for the average price to drop below \$2? (Hint: when graphing, use large values for your x -axis)



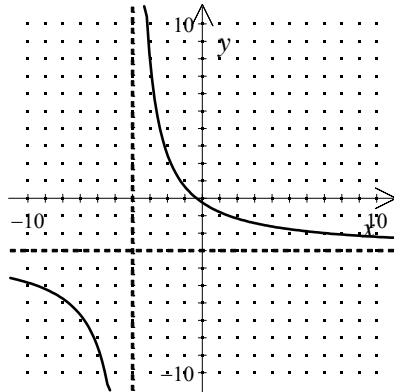
[10] _____



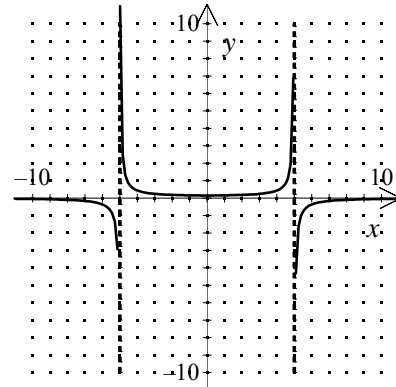
[1] $x = 0$



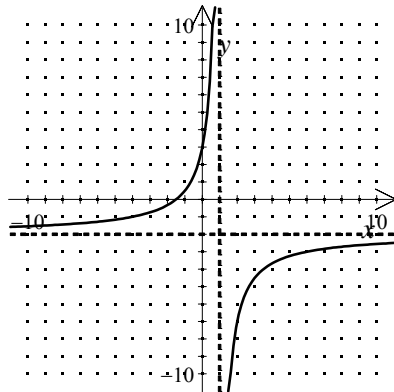
[5]



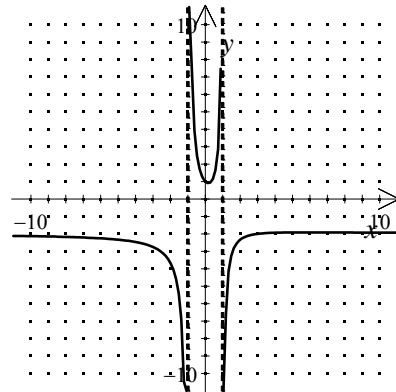
[2]



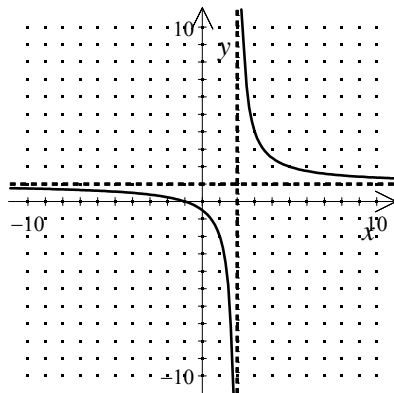
[6]



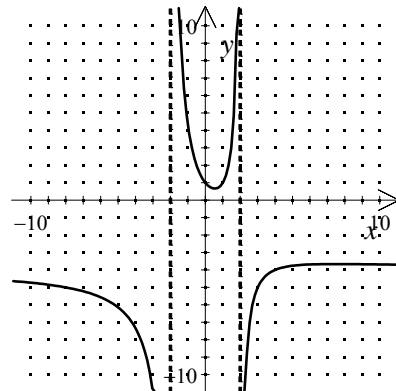
[3]



[7]

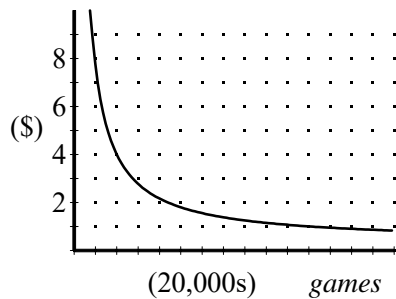


[4]



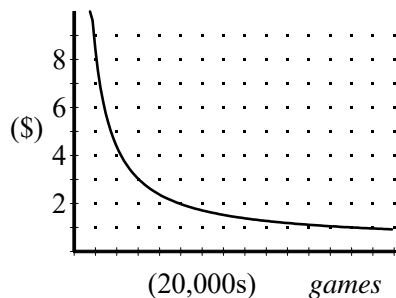
[8]

$$C(x) = \frac{0.35x + 145000}{x - 200}; 223,000 \text{ games sold}$$



[9]

$$C(x) = \frac{0.4x + 157500}{x - 150}; 98,000 \text{ games sold}$$



[10]
