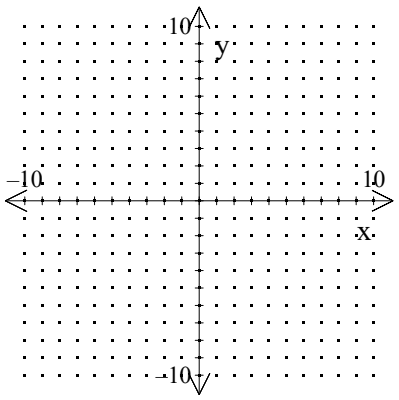
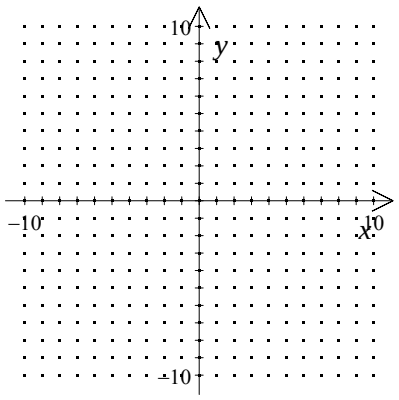
NAME:_____

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?



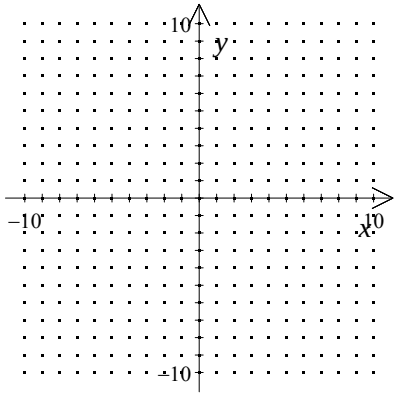
[1] _____

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



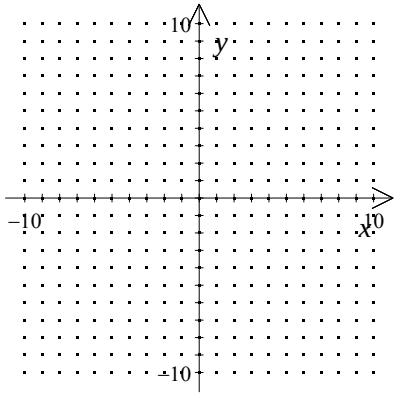
[2] _____

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



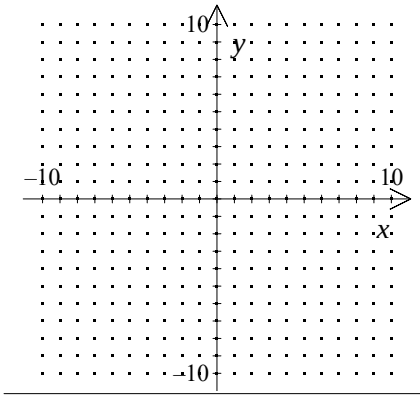
[3] _____

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



[4] _____

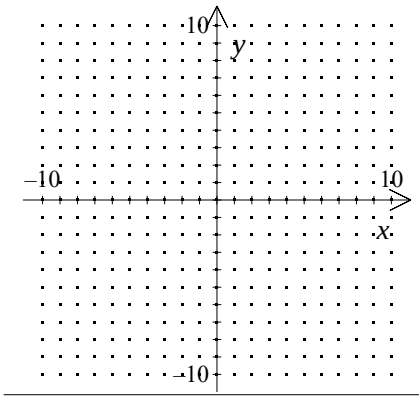
5. Locate the asymptotes and graph the rational function $f(x) = -\frac{1}{x^2-16}$.



[5] _____

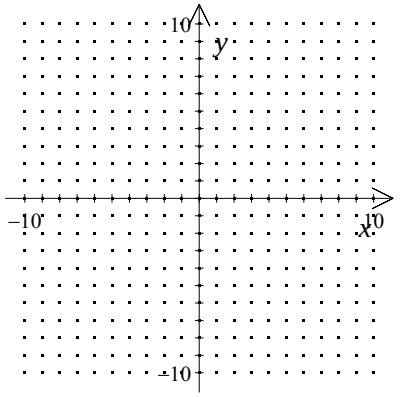
NAME:_____

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



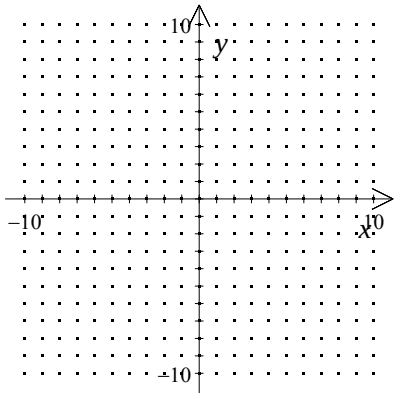
[6] _____

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



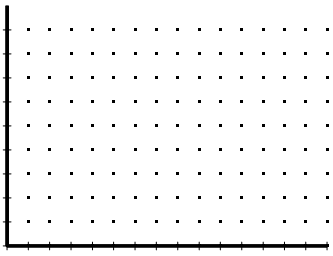
[7] _____

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



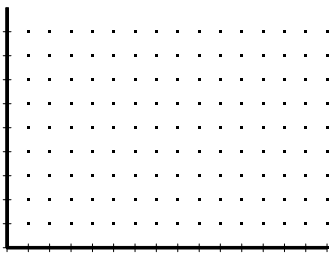
[8] _____

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)

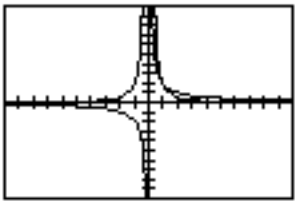


[9] _____

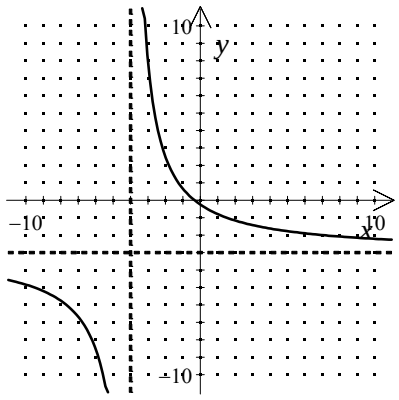
10. A new computer game costs $157,500 to research and develop. Once completed, individual games can be produced for just $0.40 each. If the first 150 are given away as samples, write and graph a function $C(x)$ for the average cost of disks that will be sold to customers. How many games must be sold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



[10] _____

[1] 

$x = 0$

[2] 
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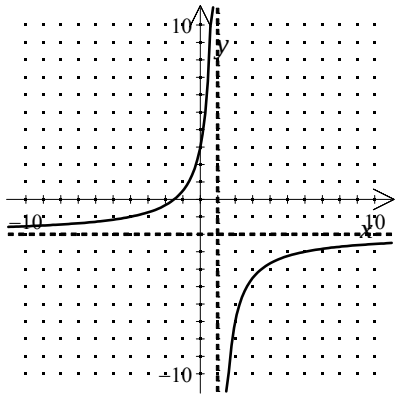
[3] 
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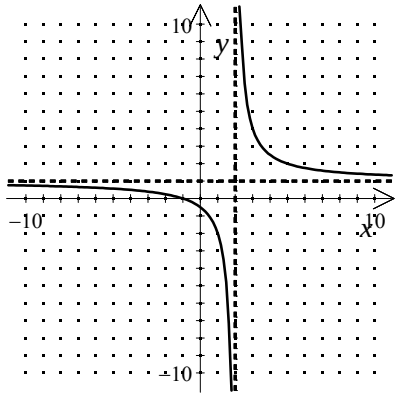
[4] 
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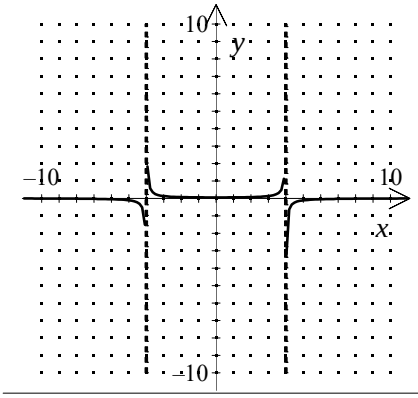
[5] 
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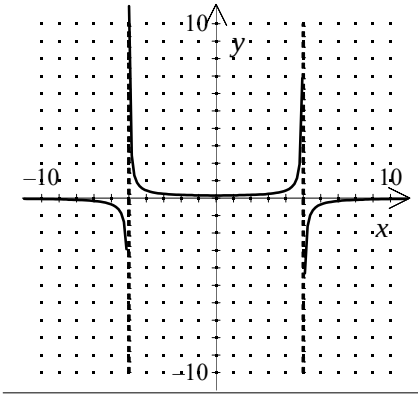
[6] 
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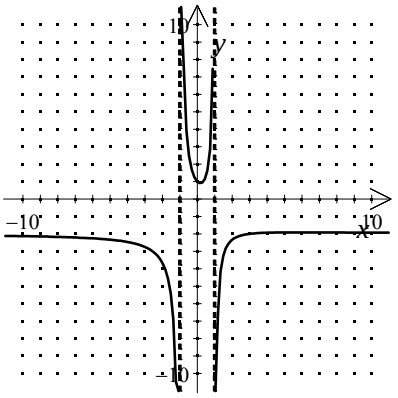
[7] 
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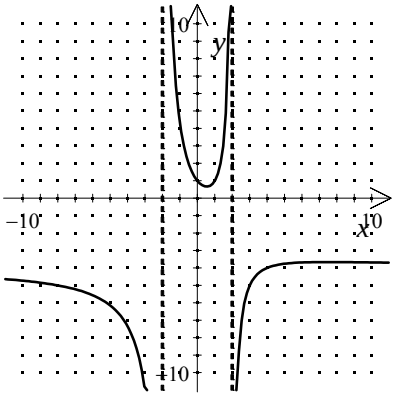
[8] 
0
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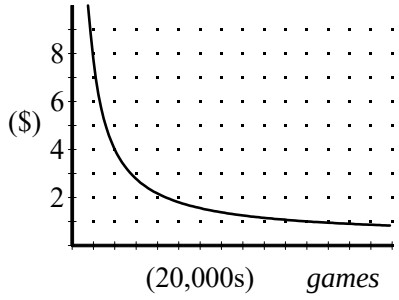
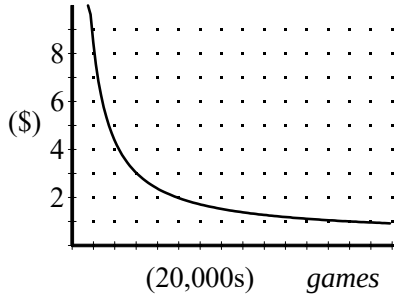
$C(x) = \frac{0.35x + 145000}{x - 200}$; 223,000 games sold



[9] _____

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



[10] _____