

Quick preview of skills

Factoring (again!!!)

Simplifying rational expression:

$$\frac{x^2 - 4x}{x - 4} =$$

Mult and Div rational terms:

$$\frac{x^2 - 4}{x - 3} \div \frac{x + 2}{12 - 4x} =$$

Adding and Subtracting rational terms:

$$\frac{3}{x+1} - \frac{2}{x} =$$

Solving equations with rational terms:

$$\frac{x+2}{2} - \frac{2x+1}{3} = -2$$

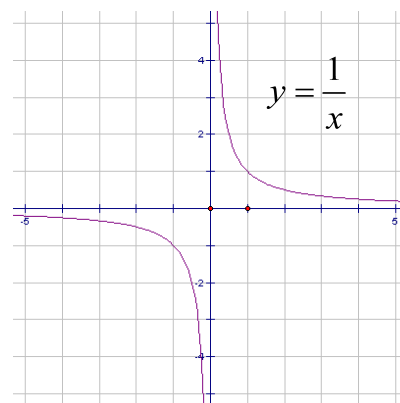
Practice as necessary on p246

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Sec 5.1

Graphs of Reciprocal Functions

Recall:
Graph of parent function



Asymptotes $y=0$ and $x=0$

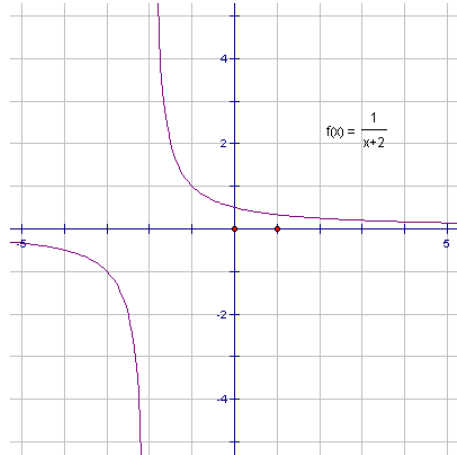
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Let's compare the graphs of the linear function and its reciprocal.

$$f(x) = x + 2$$

$$f(x) = \frac{1}{x+2}$$

x	f(x)	g(x)
-3		
-2		
-1		
0		
1		



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What about non-linear reciprocal graphs?

$$y = 4 - x^2$$

$$y = \frac{1}{4 - x^2}$$

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ASYMPTOTE RULES:

Notice:

-There is a vertical asymptote for the reciprocal function when the original function has a zero (x intercept).

-All linear and quadratic reciprocals have a horizontal asymptote at $y=0$

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Intervals of increase and decrease are opposite on the original and reciprocal functions.

For quadratics, where the original function has a min/max, the reciprocal has a max/min. (switch)

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HW

P254 #1, 2ace, 3, 5 (in class on graphing calculator or on computer), 7a, 8a, 9c

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