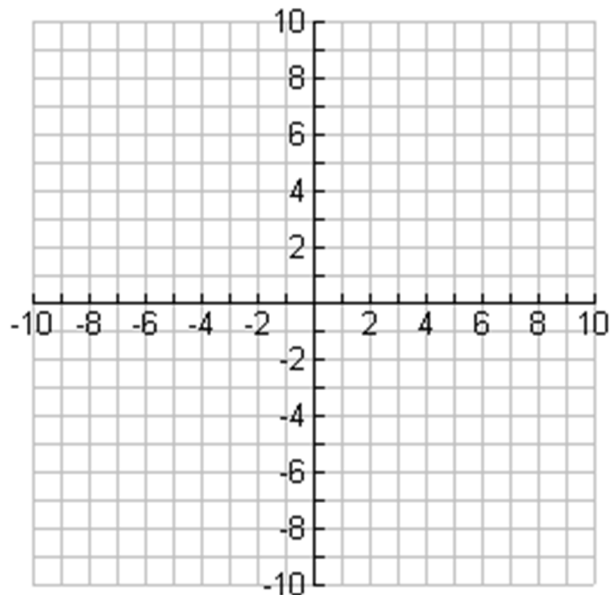


7.4 Reciprocal Functions

Name: _____

Example 1: Graph $y = \frac{1}{x}$ using a table of values: leave answers as decimal values



x	y
-10	
-5	
-2	
-1	
-0.5	
-0.25	
-0.1	
0	
0.1	
0.25	
0.5	
1	
2	
5	
10	

Characteristics:

Asymptote:

Vertical Asymptote:

Horizontal Asymptote:

End Behaviour:

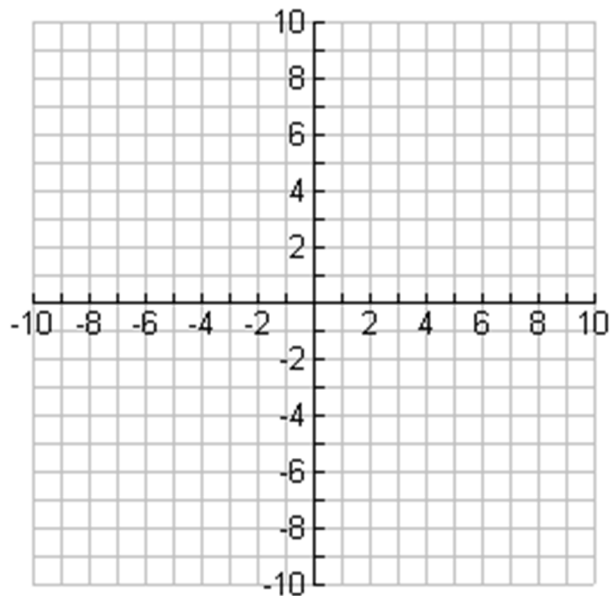
Invariant Points:

Example 2: Consider $f(x) = 2x - 4$

a.) Graph the original function.

b.) Determine the equation of the reciprocal function.

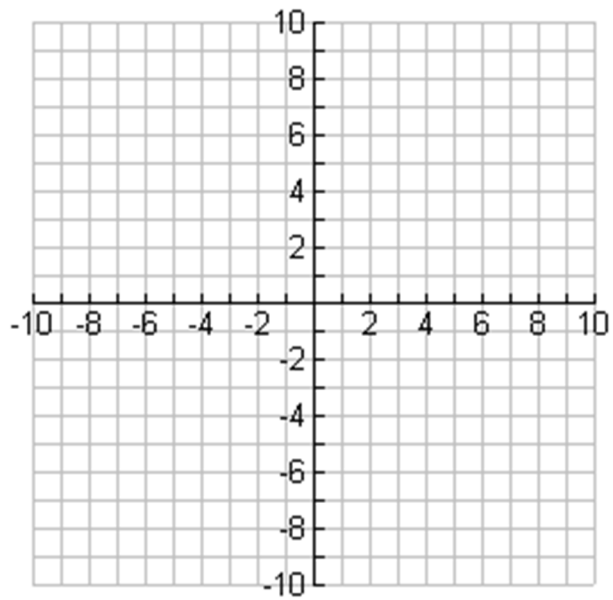
c.) Graph the reciprocal function using information from the original function: Remember that we need to take the reciprocal of the y values for each point. Use the invariant points (when $y = 1$) as starting values.



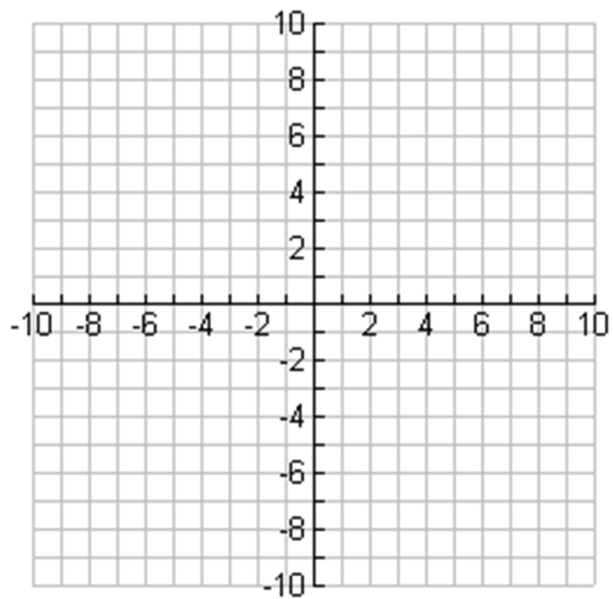
d.) Where are the asymptotes?

e.) Where are the invariant points?

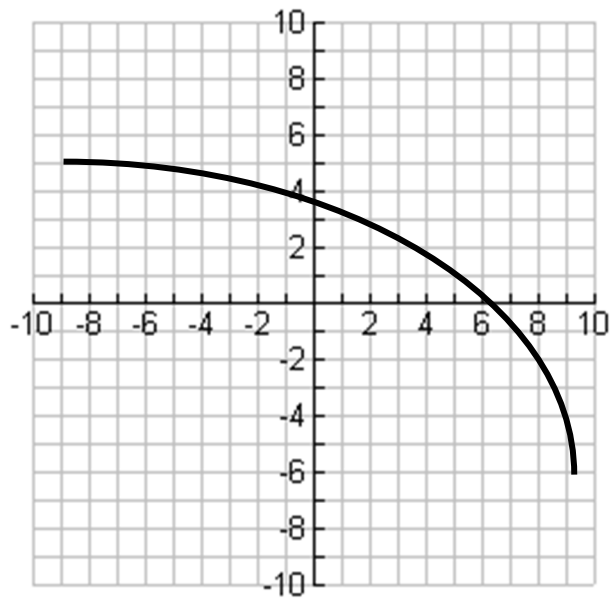
Try: Sketch $y = 3x - 9$ and its reciprocal function



Example 3: Sketch $y = x^2 - 4$ and its reciprocal function. State the non-permissible values and the equations of the asymptote(s) of the reciprocal function.



Example 4: Given the following graph, sketch the reciprocal function:



Class work:

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