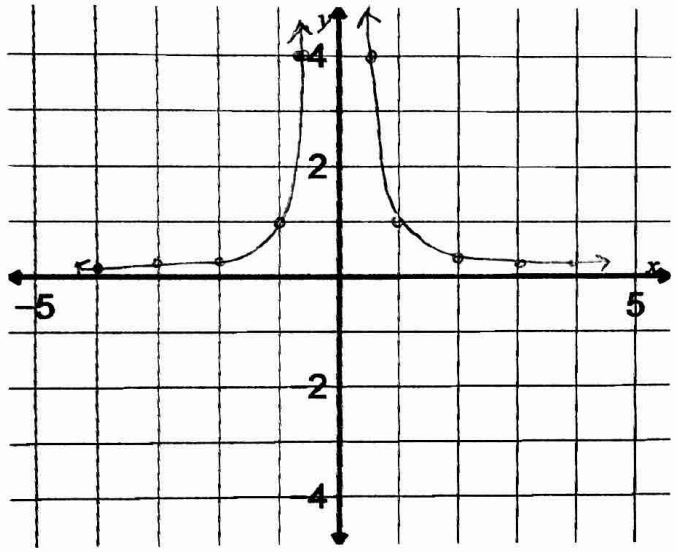
Algebra 2 8.6 Rational Functions Investigation, Part 2 Name_____

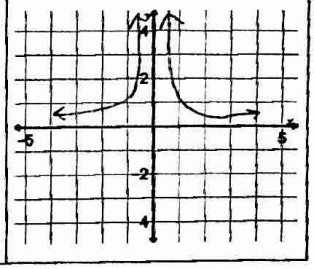
Step 1: Complete the table.

x	-4	-3	-2	-1	$-\frac{1}{2}$	$-\frac{1}{3}$	$-\frac{1}{4}$	0	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{2}$	1	2	3	4
$y=\frac{1}{x^2}$	1/16	1/9	1/4	1	4	9	16	dne	16	9	4	1	1/4	1/9	1/16

Step 2: Plot the points from the table on the graph.



Summary

Parent Equation	$1/x^2$
Asymptotes	$x=0, y=0$
Domain	$(-\infty,0)\cup(0,\infty)$
Range	$(0,\infty)$
Key Points	x: -1, 1 ; y: 1, 1
Graph	

Step 3:
List at least three interesting features of the graph.

1. doesn't ~~go~~ have negative y-values
2. $x \neq 0$
3. $y \neq 0$
4. mirrored over ~~y~~-axis

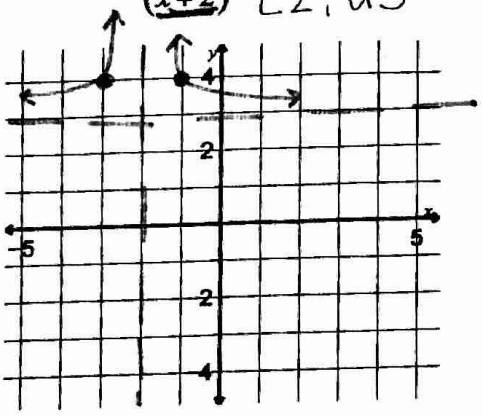
Examples

1. List the asymptotes, state the domain and range, and sketch the graph of $y=\frac{1}{(x+2)^2}+3$. L2, U3

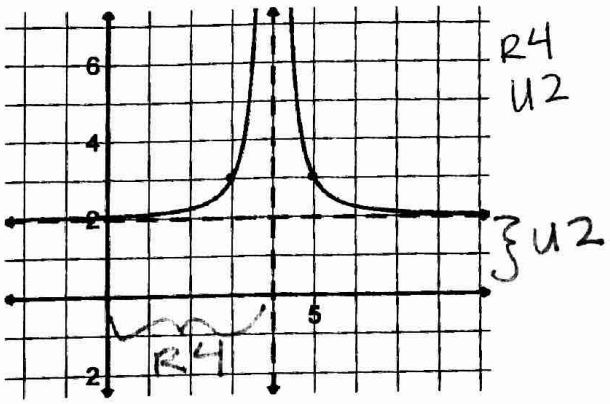
Asymptotes:
$x=-2, y=3$

Domain:
$(-\infty,-2)\cup(-2,\infty)$ break

Range:
$(3,\infty)$



2. Write the equation for the function graphed.



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