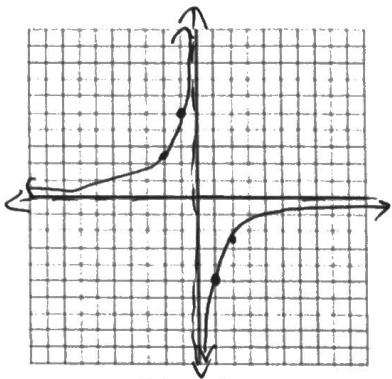


# Graph Simple Rational Functions Practice

Name Key

(1-2) Graph the Function. Compare the graph with the graph of  $y = \frac{1}{x}$ .

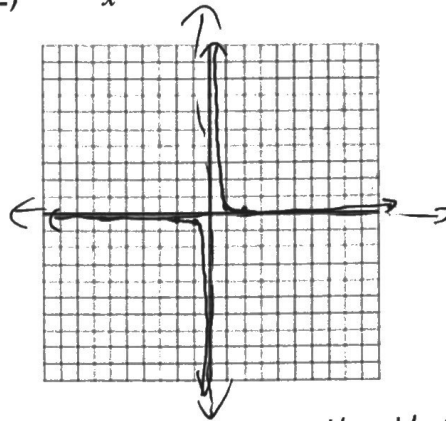
1)  $y = \frac{-5}{x}$



x	y
-3	-1.67
-2	2.5
-1	5
1	-5
2	-2.5
3	-1.67

- \* reflection over  $y=0$
- \* lies further from the axes than  $y = \frac{1}{x}$  (vert. stretch)
- \* same domain and range

2)  $y = \frac{0.1}{x}$

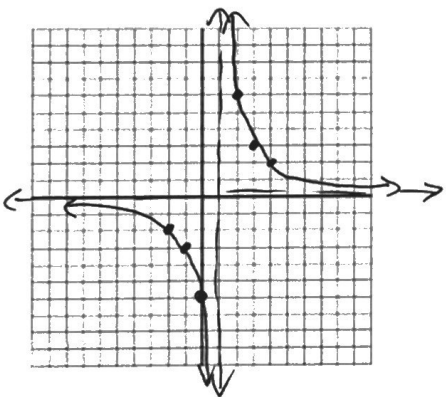


x	y
-2	-0.05
-1	-0.1
1	0.05
2	0.05

- \* lies closer to the axes than  $y = \frac{1}{x}$  (vert. shrink)
- \* same domain and range

(3-4) Graph the function. State the domain and range.

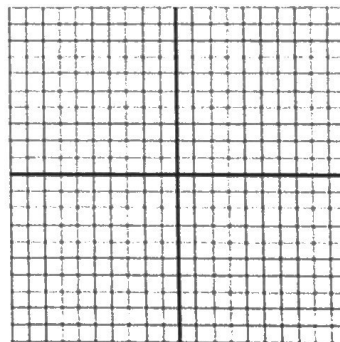
3)  $y = \frac{6}{x-1}$



x	y
-2	-2
-1	-3
0	-6
2	6
3	3
4	2

Domain  $x \neq 1$  Range  $y \neq 0$

4)  $y = \frac{-4}{x+4} + 3$



x	y
-7	4.33
-6	5
-5	7
-3	-1
-2	1
-1	1.67

Domain  $x \neq -4$  Range  $y \neq -1$

5) Multiple choice: What are the asymptotes of the graph of  $y = \frac{3}{x+8} - 3$

a)  $x=8, y=3$

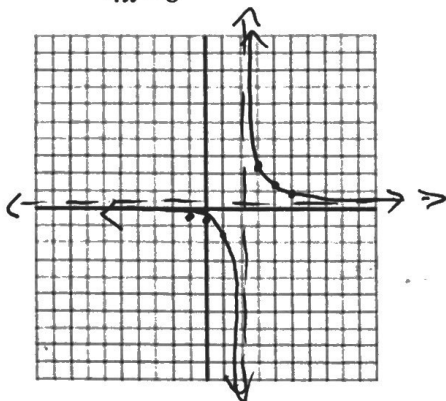
b)  $x=8, y=-3$

c)  $x=-8, y=3$

d)  $x=-8, y=-3$

(6-7) Graph the function. State the domain and range.

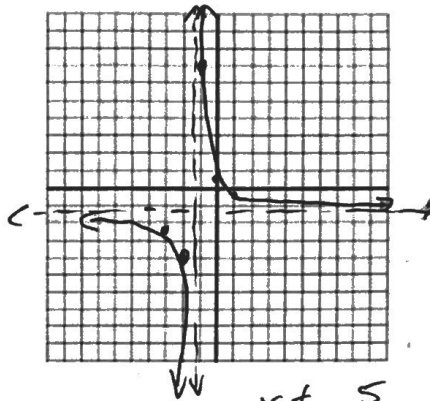
6)  $y = \frac{x+6}{4x-8}$



Domain  $x \neq 2$  Range  $y \neq \frac{1}{4}$

x	y
-1	-0.42
0	-0.75
1	-1.75
3	2.25
4	1.25
5	0.92

7)  $y = \frac{-5x+2}{4x+5}$



Domain  $x \neq -\frac{5}{4}$  Range  $y \neq -\frac{5}{4}$

x	y
-3	-2.43
-2	-4
-1	7
0	0.4
1	-3.3