4-1 Additional Practice

Inverse Variation and the Reciprocal Function

Do the tables below represent a direct variation or an inverse variation? Explain.

1.

X	у	
2	10	
4	5	
5	4	
20	1	

х	у	
1	6	
2	12	
5	30	
7	42	

х	у	
0.2	25	
0.5	62.5	
2	250	
3	375	

Suppose x and y vary inversely. Write an equation that models each inverse variation. Find y when x = 10.

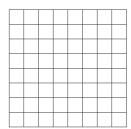
4.
$$x = 7$$
 when $y = 2$

4.
$$x = 7$$
 when $y = 2$ **5.** $x = 4$ when $y = 0.2$ **6.** $x = 2$ when $y = 5$

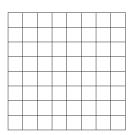
6.
$$x = 2$$
 when $y = 5$

Graph each function. Identify the asymptotes of each graph and state the domain and the range of each function.

7.
$$f(x) = \frac{12}{x}$$



8. $f(x) = \frac{1}{x} + 3$



Asymptotes:

Domain:

Asymptotes:

Domain:

Range:

Range:

- 9. The length of a pipe in a panpipe ℓ , in ft, is inversely proportional to its pitch p, in hertz. The inverse variation is modeled by the equation $p = \frac{497}{\rho}$. Find the length of pipe required to produce a pitch of 220 Hz.
- 10. From the table of values, how can you determine that the data do not represent an inverse variation?

x	-4	-2	2	4	6	8
у	100	100	100	50	25	20