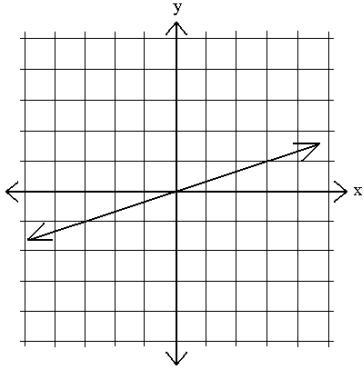
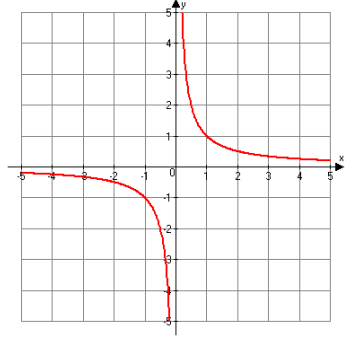


Inverse Variations

* Differences of Direct and Inverse Variations

Direct Variation					Inverse Variation				
$y = kx$ $k = a \text{ number}$					$y = \frac{k}{x}$ $k = a \text{ number}$				
$\frac{y}{x} = k$					$x \cdot y = k$				
x	1	2	3	4	x	1	2	3	4
y	2	4	6	8	y	12	6	4	3
$\frac{y}{x} = \frac{2}{1} = \frac{4}{2} = \frac{6}{3} = \frac{8}{4} = 2$ $k = 2$					$1 \cdot 12 = 2 \cdot 6 = 3 \cdot 4 = 12$ $k = 12$				
									

* **Determine if each is a direct variation, Inverse Variation , or neither. If it is a direct or inverse variation find k**

Ex1) a) $xy = 4$ b) $\frac{y}{2} = x$ c) $y = 2x+3$

Ex2)

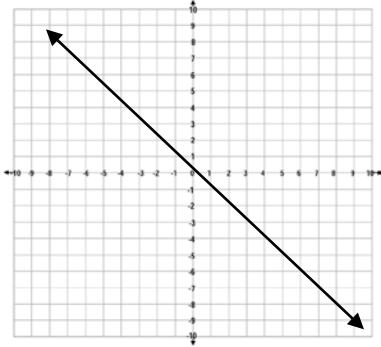
a)

x	-2	-1	1	2	4
y	-8	-16	16	8	4

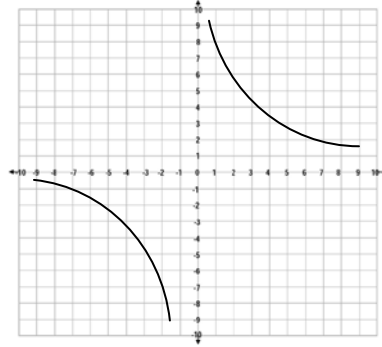
x	-2	-1	1	2	4
y	-8	-4	4	8	16

Ex3) Determine if each graph is a direct/inverse variation or neither.

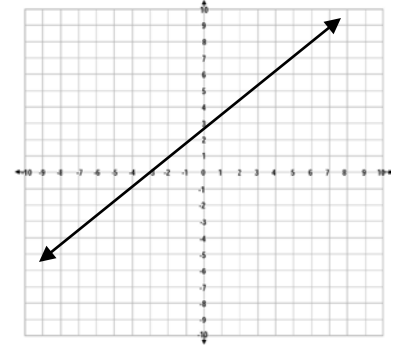
a)



b)



c)



EX4) If x varies inversely for y , and $y = 6$ and $x = -3$

a) write an equation for y

b) Find the value of y when $x = 4$

ex5) $y = 3$ and $x = 24$

a) write an equation for y

b) find the value of y when $x = -6$