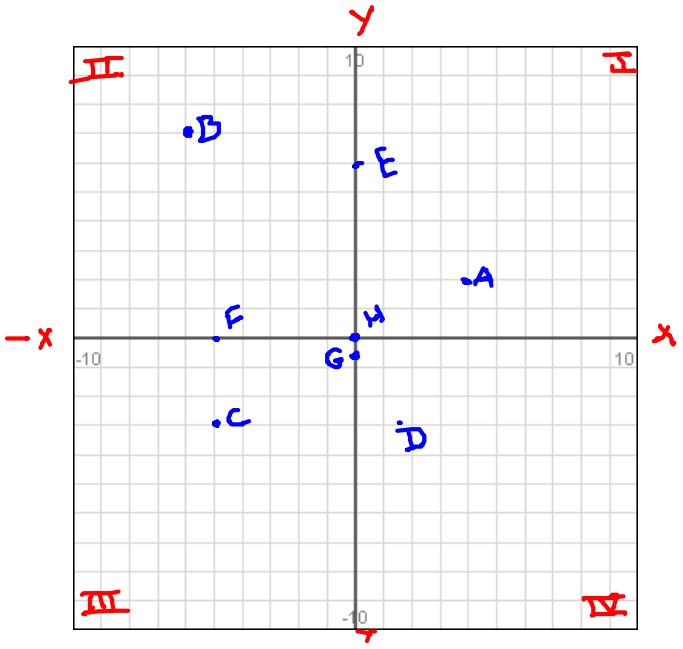
The Coordinate Plane



(x, y)

$A(4,2)$ → ↑

$B(-6,7)$ ← ↑

$C(-5,-3)$ ← ↓

$D\left(1\frac{1}{2},-3\right)$ → ↓

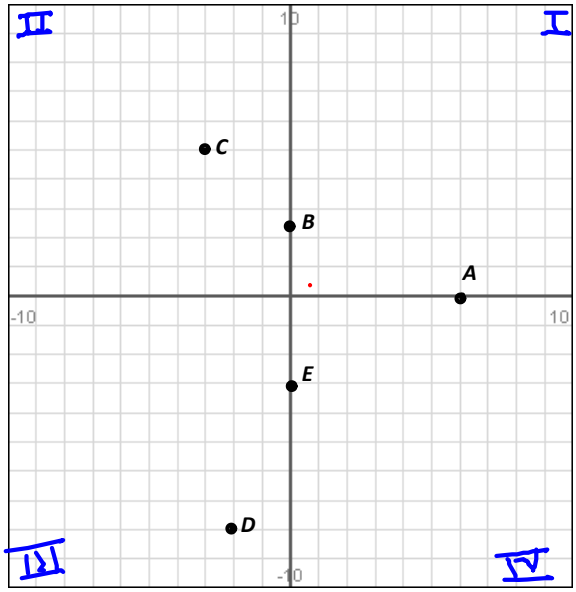
$E(0,6)$ ↑

$F(-5,0)$ ←

$G\left(0,-\frac{1}{2}\right)$ ↓

$H(0,0)$

1. Determine the quadrant and coordinates for each of the points.



A → 6
(6, 0)
positive x-axis

D ← 2 ↓ 8
(-2, -8)
III

B ↑ $2\frac{1}{2}$
$(0, 2\frac{1}{2})$
positive y-axis

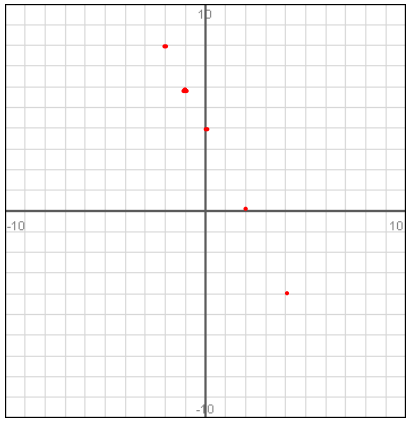
E ↓ 3
(0, -3)
negative y-axis

C ← 3 ↑ 5
(-3, 5)
II

2. Make a table for each equation and find the values for y by substituting $-1, -2, 0, 2$ and 4 in for x.

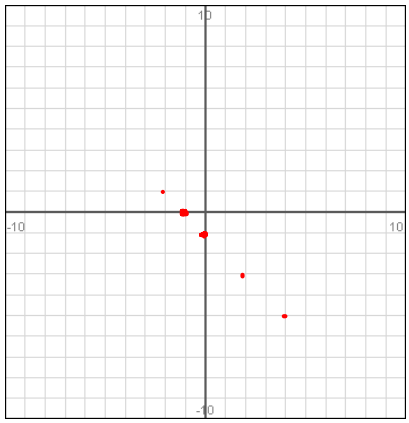
a) $y = -2x + 4$

x	$-2x+4$	y	
-1	$-2(-1)+4$ $2+4$	6	$(-1, 6)$ $\leftarrow 1 \uparrow 6$
-2	$(-2)(-2)+4$ $4+4$	8	$(-2, 8)$ $\leftarrow \uparrow$
0	$-2(0)+4$ $0+4$	4	$(0, 4)$ $\uparrow 4$
2	$-2(2)+4$ $-4+4$	0	$(2, 0)$ $\rightarrow$
4	$-2(4)+4$ $-8+4$	-4	$(4, -4)$ $\rightarrow 4 \downarrow 4$



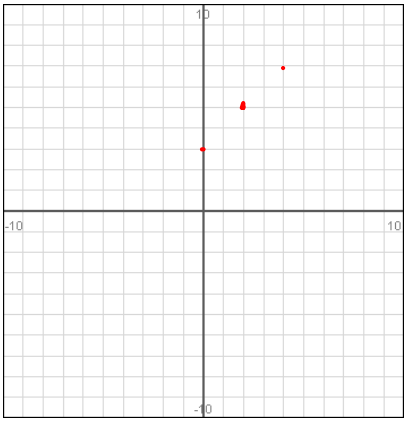
b) $y = -x - 1$

x	$-1x-1$	y	
-1	$-1(-1)-1$ $1-1$	0	$(-1, 0)$ $\leftarrow$
-2	$-1(-2)-1$ $2-1$	1	$(-2, 1)$ $\leftarrow \uparrow$
0	$-1(0)-1$ $0-1$	-1	$(0, -1)$ $\downarrow$
2	$-1(2)-1$ $-2+\overline{0}1$ $-2+-1$	-3	$(2, -3)$ $\rightarrow \downarrow$
4	$-1(4)-1$ $-4+\overline{c}1$ $-4+-1$	-5	$(4, -5)$ $\rightarrow \downarrow$



3. Determine if the points lie on a straight line.

a) $(0,3)$, $(2,5)$ and $(4,7)$ yes



b) $(1,5)$, $(2,-4)$ and $(3,1)$ NO