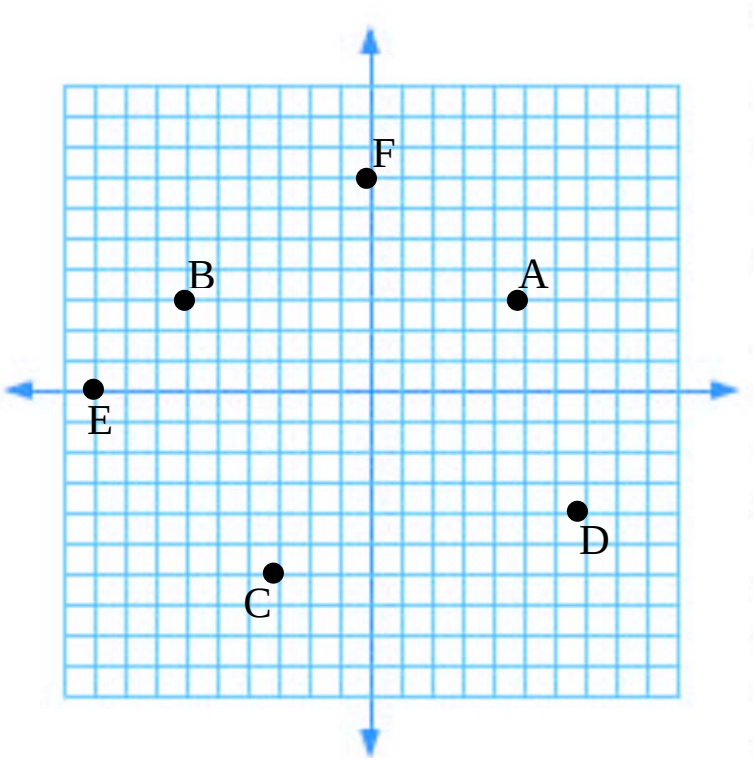


1. Record the coordinates and the quadrants (or axes) of the following points.

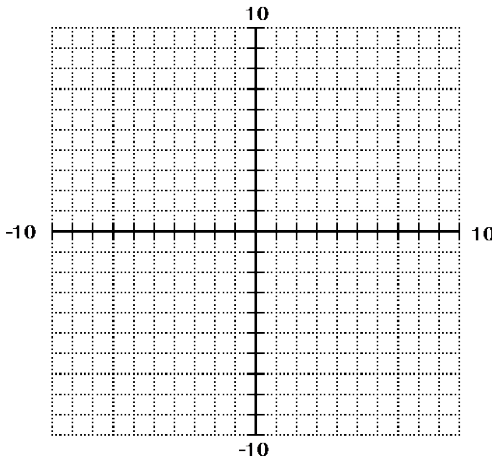
   F _____ _____
   B _____ _____
   D _____ _____

2. On the same plane above, label these additional points. Give their quadrants (or axes) below.

   G (-3, -4.5) _____
   H (5, 0) _____
   I (-10, 10) _____
   J (2, 2) _____

3. Complete the table below, and graph the line.
   y = -2x

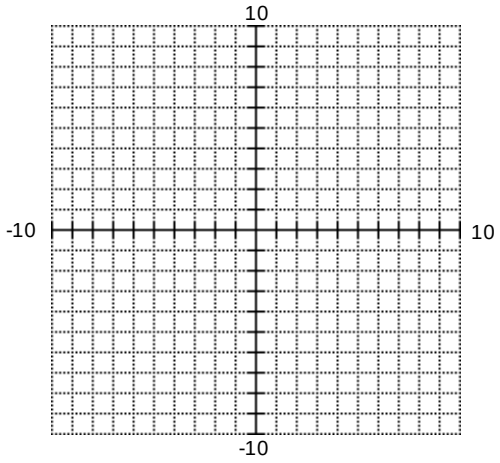
x	y
-3	
0	
	0



4. Complete the table below, and graph the line.

$y = \frac{1}{3}x + 1$

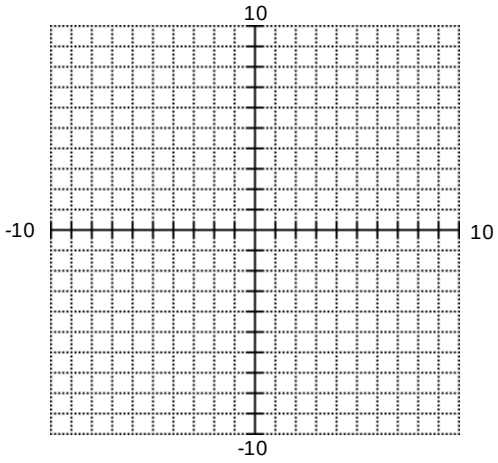
x	y
-3	
0	
3	



5. Complete the table below, and graph the line.

$y = -x + 4$

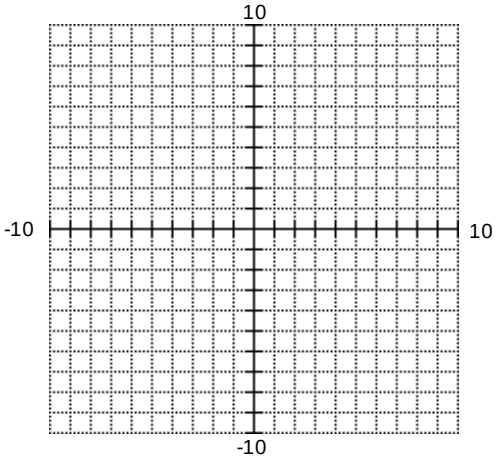
x	y
0	
1	
2	



6. Complete the table below, and graph the line.

$y = \frac{1}{2}x - 6$

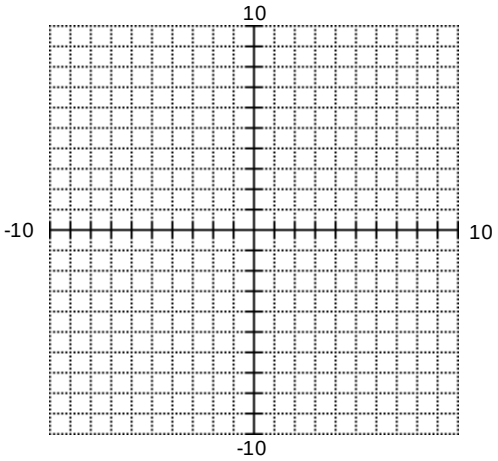
x	y
-2	
0	
2	
4	



7. Complete the table below, and graph the line.

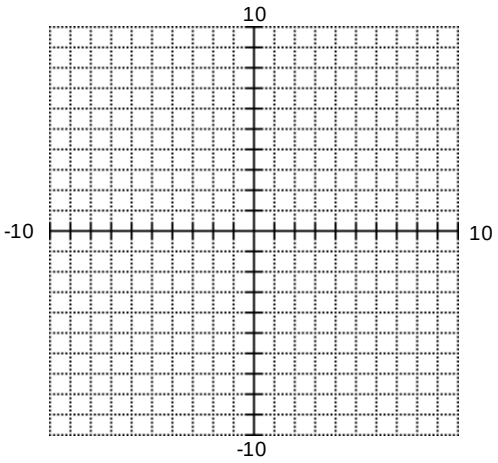
$-4x + 2y = 8$

x	y



8. Complete the tables below, and graph the lines.

(a)		(b)	
x = 5		y = -2	
x	**y**	**x**	**y**



The graph in (a) is _____ ; the graph is (b) is _____.

9. Change the linear equation $y - 2 = 3(x + 1)$ to

(a) slope-intercept form (b) general form

(c) What is the slope of this line? _____

(d) Give the ordered pair for any point on the line. _____

(e) Give the intercepts.

x-intercept: _____ y-intercept: _____

10. Complete the table for the following “special cases”.

Equation	Slope	x-intercept	y-intercept
(a) y = -1			
(b) x = 7			
(c) y = x			

11. For parallel lines, the slopes are _____ , and the y-intercepts are different.

For perpendicular lines, the slopes are _____ and _____ . Another way to express this is the product of their slopes is _____ .

On the diagrams below put a reasonable set of slope numbers on each line.

12. An **application** involving linear functions involves the relationship between Celsius and Fahrenheit temperature measurements. A common formula (in slope-intercept form) is _____ .

Another application involves uniform motion. Write the linear formula relating distance (d) and time (t) for a fixed rate of speed, r = 72 mph.

_____

Another common application involves cost structures. For example, an automobile mechanic may charge $148 for parts and $50 an hour for labor. Write the corresponding formula, with C for cost and t for time in hours.

_____

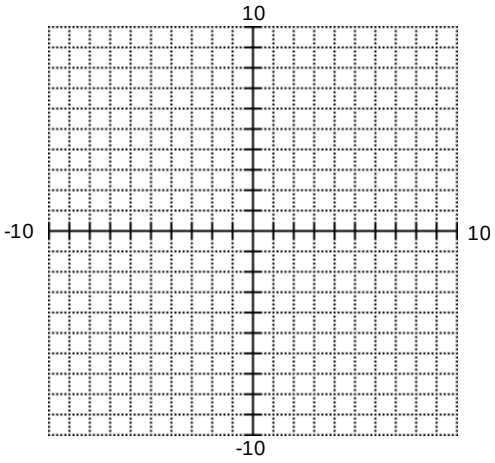
13. Determine whether the given function is linear or nonlinear. If it is linear, determine the slope.

_____ _____

x	y
-3	12
0	10
3	8
6	6

14. Graph the line with slope $-\frac{1}{4}$ that passes through the point given by (-4, 7).

Then find its equation in slope-intercept form.



15. For the graph of y = -2x + 4, find the intercepts. Use ordered pairs.

x-intercept _____ y-intercept _____

16. For the line given by the equation 2x – 3y = 9, find the

slope _____ x-intercept _____ y-intercept _____

17. Chelsea earns $350 per week plus 2.5% of her weekly sales. For a full week of hard (but satisfying!) work, she earned a total of $567.50. What were her sales for the week? Use a linear equation to solve this application.

18. Find the equation of the line (in slope-intercept form)

(a) Horizontal and containing the point (-5, 3)

(b) Perpendicular to $y = 3x - 5$ and passing through the point (3, -2).

(c) Passing through the points (3, 4) and (-3, 0)

Do your best! Rise to the challenge! Live and learn!