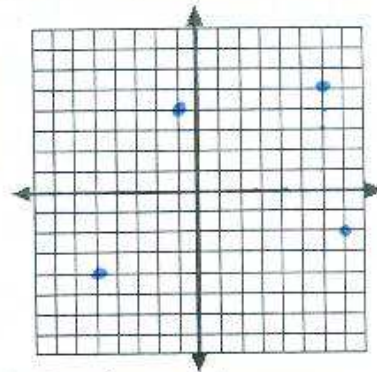


Directions: Show all work. Place answer on the blank line next to problem number.

1. Plot the following points

- (-1, 4)
- (6, 5)
- (7, -2)
- (-5, -4)

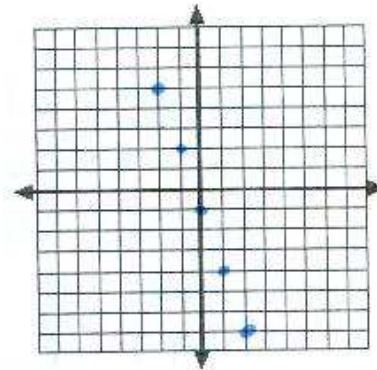


Graph the function with the given domain -2, -1, 0, 1, 2 and state the range:

2. $y = -3x - 1$

X	Y	Ordered Pair
-2	5	(-2, 5)
-1	2	(-1, 2)
0	-1	(0, -1)
1	-4	(1, -4)
2	-7	(2, -7)

Range: 5, 2, -1, -4, -7

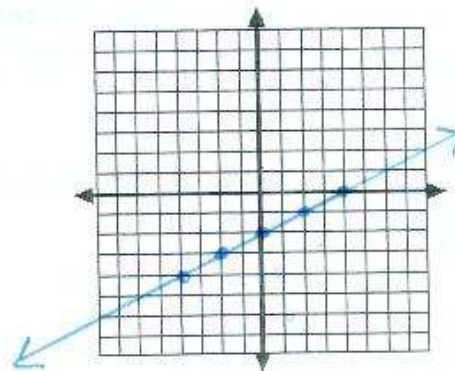


Graph the line and state the range:

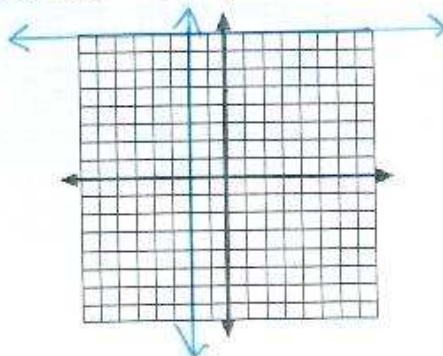
3. $2x - 4y = 8$ $y = \frac{1}{2}x - 2$

X	Y	Ordered Pair
-4	-4	
-2	-3	
0	-2	
2	-1	
4	0	

Range: all reals



4. Sketch the lines $x = -2$ and $y = 8$ on the same coordinate plane.



5. $3x - 6y = 18$

x-intercept $(6, 0)$ y-intercept $(0, -3)$

$3x - 6(0) = 18$

$\frac{3x}{3} = \frac{18}{3}$

$x = 6$

$3(0) - 6y = 18$

$-6y = 18$

$y = -3$

6. $-4x + 7y = 28$

x-intercept $(-7, 0)$ y-intercept $(0, 4)$

$-4x + 7(0) = 28$

$-4x = 28$

$x = -7$

$-4(0) + 7y = 28$

$7y = 28$

$y = 4$

Find the slope of the line that passes through the points:

$\frac{1}{6}$ 7. $(9, -2)$ and $(3, -3)$

$m = \frac{-3 - (-2)}{3 - 9} = \frac{-1}{-6} = \frac{1}{6}$

undefined 8. $(6, -2)$ and $(6, 2)$

$\frac{-2 - 2}{6 - 6} = \frac{-4}{0}$

0 9. $(7, -1)$ and $(-4, -1)$

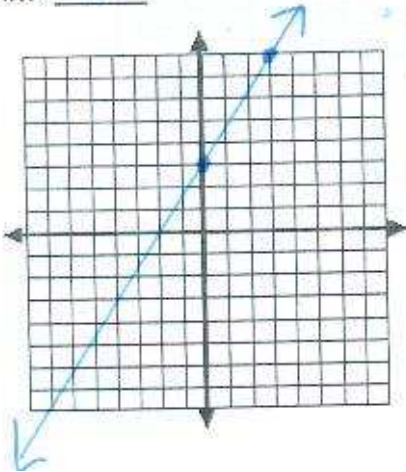
$\frac{-1 - (-1)}{-4 - 7} = \frac{0}{-11} = 0$

- a) Write the equation in slope-intercept form
- b) Identify the slope and y-intercept
- c) Graph the line

$y = \frac{5}{3}x + 3$ 10. $5x - 3y = -9$

slope: $m = \frac{5}{3}$

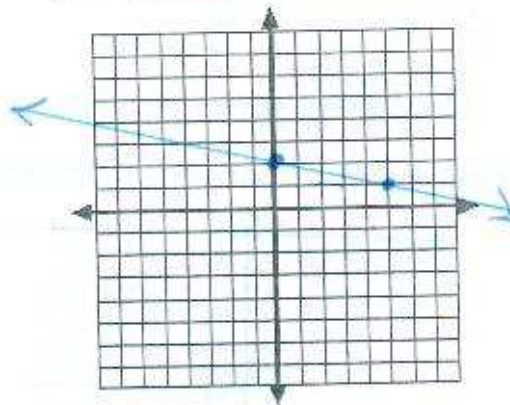
y-int: 3



$y = -\frac{1}{5}x + 2$ 11. $x + 5y = 10$

slope: $m = -\frac{1}{5}$

y-int: $b = 2$



Determine whether the equation represents a direct variation. (Yes OR No) If YES, identify the constant of variation.

yes 12. $x - 5y = 0$
 $k = 1/5$
 $y = \frac{1}{5}x$

NO 13. $4x + 2y = 4$
 ↑
 b/c has b-value!
 $\frac{2y = -4x + 4}{2}$
 $y = -2x + 2$

Given that y varies directly with x, use the specified values to write a direct variation EQUATION that relates x and y.

$y = 2x$ 14. $x = 7, y = 14$
 $\frac{14 = 7k}{7 \quad 7}$
 $2 = k$

$y = -\frac{5}{9}x$ 15. $x = 9, y = -5$
 $\frac{-5 = 9k}{9 \quad 9}$
 $-\frac{5}{9} = k$

Evaluate the function for the given value of x:

16 16. $f(x) = -2x + 2$, when $x = -7$
 $f(-7) = -2(-7) + 2$
 $= 14 + 2$

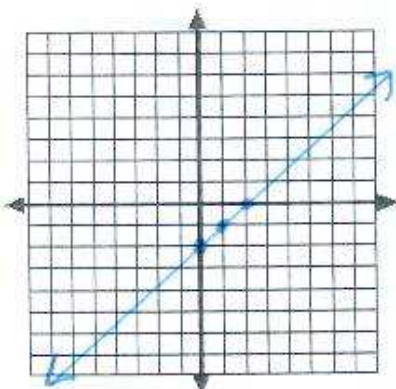
Find the value of x so that the function has the given value:

3 17. $h(x) = 5x + 8$, when $h(x) = 23$
 $23 = 5x + 8$
 $15 = 5x$
 $3 = x$

Graph the function. Describe the transformation from $f(x) = x$.

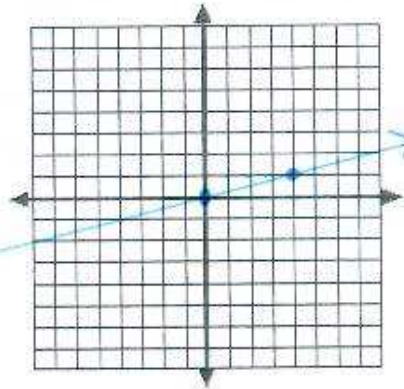
18. $f(x) = x - 2$

19. $g(x) = \frac{1}{4}x$



Transformation:

same slope;
 y-int down
2



Transformation:

slope less than
 $f(x)$ slope;
 y-int same

20. The point $(0, 0)$ is the origin on the coordinate plane.
21. The form $y = mx + b$ is described as slope-intercept form.
22. A line with a positive slope rises from left to right.
23. A line with a negative slope falls from left to right.
24. The slope of a horizontal line is zero.