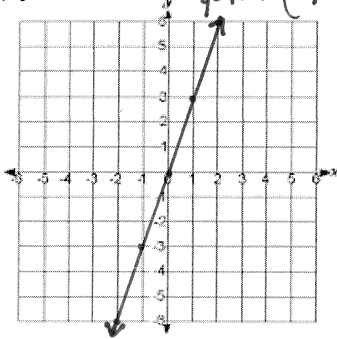


Lesson 2.3 Worksheet

Name: Key

Graph the equation using its slope and y-intercept. Compare the graph with the graph of $y = x$.

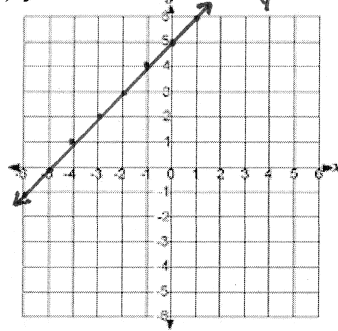
1.) $y = 3x$ $m=3$ $y\text{-int:}(0,0)$



comparison:

- vertical stretch

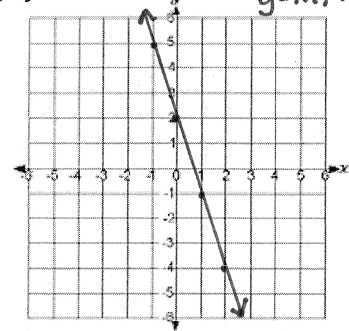
2.) $y = x + 5$ $m=1$ $y\text{-int:}(0,5)$



comparison:

- vertical shift, up 5

3.) $y = -3x + 2$ $m=-3$ $y\text{-int:}(0,2)$

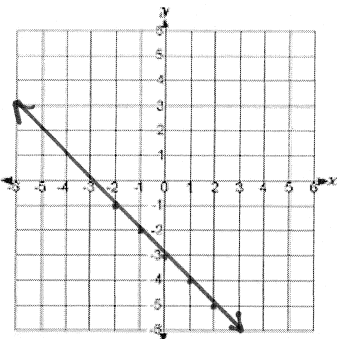


comparison:

- reflection over x-axis
- vertical stretch
- vertical shift, up 2

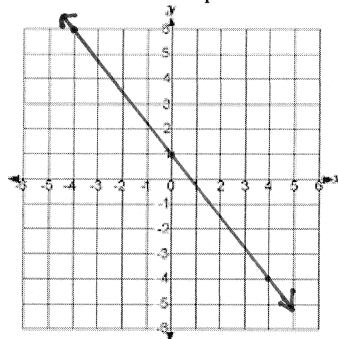
Graph the equation using its slope and y-intercept.

4.) $y = -x - 3$



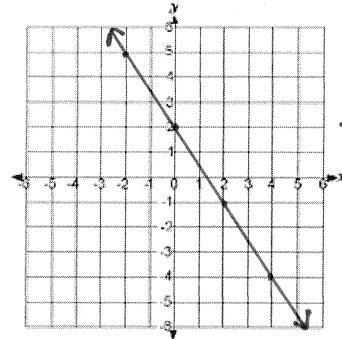
$m = -1$ $y\text{-int:}(0,-3)$

5.) $f(x) = -\frac{5}{4}x + 1$



$m = -\frac{5}{4}$ $y\text{-int:}(0,1)$

6.) $f(x) = -1.5x + 2$



$m = -\frac{3}{2}$ $y\text{-int:}(0,2)$

$-1.5 = -\frac{3}{2}$

Find the x- and y-intercepts of the line with the given equation. Write your intercepts as ordered pairs.

7.) $x - y = 4$

x-intercept: (4,0)

y-intercept: (0,-4)

$-y = 4$
 $y = -4$

8.) $3x - 4y = -12$

x-intercept: (-4,0)

y-intercept: (0,3)

$3x = -12$ $-4y = -12$
 $x = -4$ $y = 3$

9.) $4x - 5y = 20$

x-intercept: (5,0)

y-intercept: (0,-4)

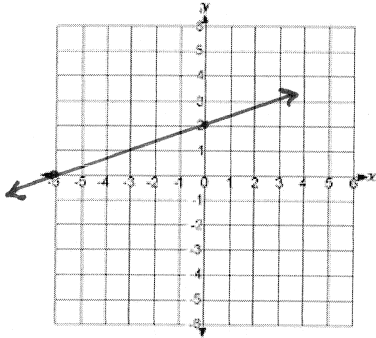
$4x = 20$ $-5y = 20$
 $x = 5$ $y = -4$

Graph the equation using its x- and y-intercepts. Write your intercepts as ordered pairs.

10.) $2x - 6y = -12$

x-intercept: $(-6, 0)$

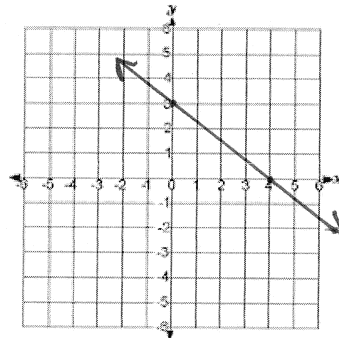
y-intercept: $(0, 2)$



11.) $3x + 4y = 12$

x-intercept: $(4, 0)$

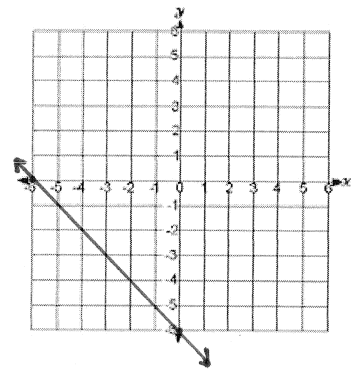
y-intercept: $(0, 3)$



12.) $-x - y = 6$

x-intercept: $(-6, 0)$

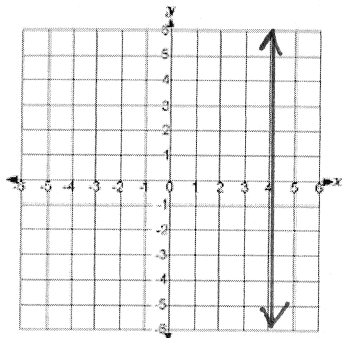
y-intercept: $(0, -6)$



Graph the equation using any method.

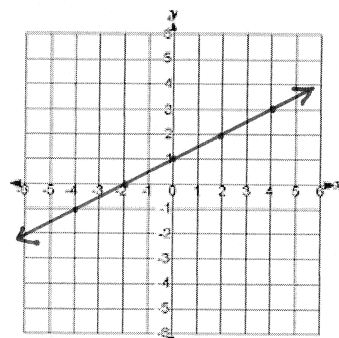
$y = \frac{1}{2}x + 1$

13.) $x = 4$



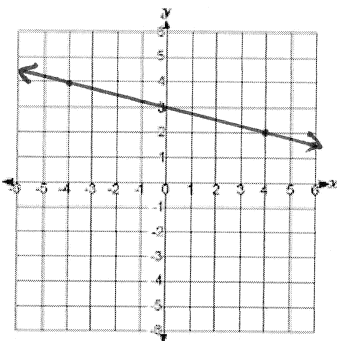
$y = -\frac{1}{4}x + 3$

14.) $6y = 3x + 6$

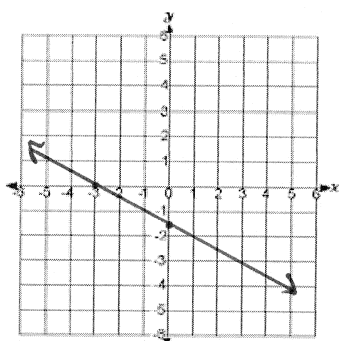


$-8y - 4x = 12$

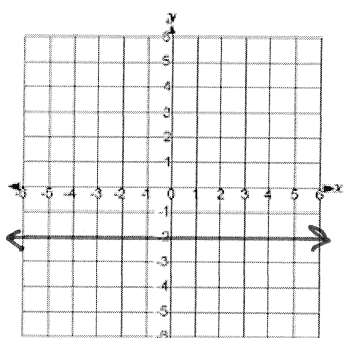
16.) $8y = -2x + 24$



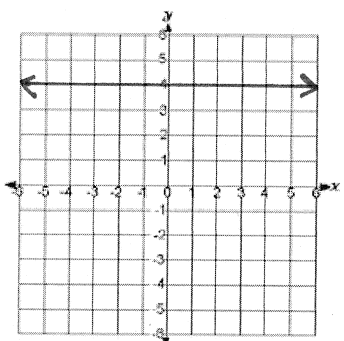
17.) $-4x = 8y + 12$



15.) $y = -2$



18.) $4y = 16$ $y = 4$



Determine whether the lines are parallel, perpendicular, or neither.

19.) Line 1: through $(5, 8)$ and $(7, 2)$

Line 2: through $(-7, -2)$ and $(-4, -1)$

Line 1: $m = \frac{2-8}{7-5} = \frac{-6}{2} = -3$

Line 2: $m = \frac{-1-(-2)}{-4-(-7)} = \frac{1}{3}$

Perpendicular

Tell whether the relation is a function. Explain how you know.

20.) $(2, -5), (-2, 5), (-1, 4), (-2, 0), (3, -4)$

function? no

explain: The input of -2 has two different outputs.