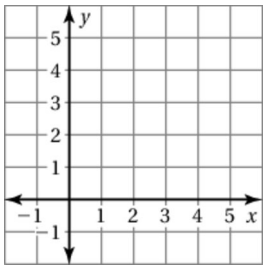
Name_____

MATH 1010 Graphing Linear Equations – Quiz Review

Complete the table. Plot the two solution points and draw a line *exactly* through the two points. Find a different solution point on the line. (Use the same axes for both graphs.)

1.

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



2.

x		
$y = x + 3$		

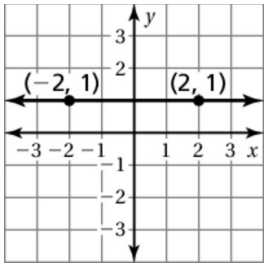
Solve for *y*.

3. $x + 4y = -12$

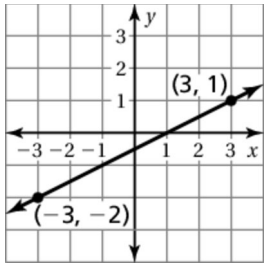
4. $2x - 3y = 3$

Find the slope of the line.

5.



6.



7. Which is steeper, a slide that rises 3 feet for every 2 feet of run, or a sliding pole that rises 5 feet for every 3 feet of run? Explain.

8. The equation of a line is $y = 2x - 3$. Write the equation of a line parallel to this line.

Find the slope and *y*-intercept of the graph of the linear equation.

9. $y = 3x - 6$ **10.** $y + 5 = -\frac{3}{4}x$ **11.** $y = \frac{7}{9}x - 3\frac{1}{3}$

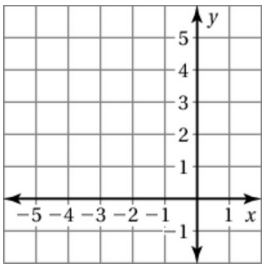
12. The position y (in meters) of a submarine after x minutes is $y = -8x - 12$. Interpret the y-intercept and the slope.

Answers

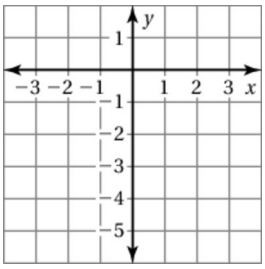
1. See left.
2. See left.
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

Graph the linear equation.

13. $-2x + 4y = 12$



14. $2x + y = -4$



15. You are 9 miles away from home. You start biking home at a speed of 6 miles per hour.

a. Write an equation in standard form that represents your distance from home y after x hours.

b. Find the y-intercept of the graph. What does this represent?

c. Find the x-intercept of the graph. What does this represent?

Write an equation in slope-intercept form of the line that passes through the given points.

16. $(0, 1), (2, 4)$

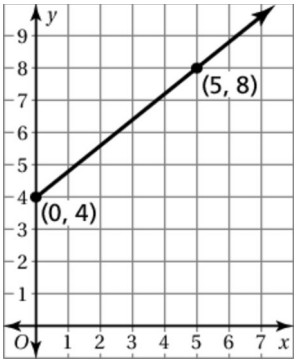
17. $(-3, 1), (0, 4)$

18. $(-3, 7), (2, -3)$

19. $(2, 8), (-2, 10)$

20. The graph shows the height y (in feet) of a kite x seconds after you start letting out the string.

a. Find and interpret the slope of the graph.



b. Write an equation of the line of the graph.

c. What is the height of the kite after 15 seconds?

d. Interpret the y-intercept of the graph.

Answers

13. See left.

14. See left.

15. a. _____

b. _____

_____

_____

c. _____

_____

_____

16. _____

17. _____

18. _____

19. _____

20. a. See left.

b. _____

c. _____

d. See left.

Answers

1. *Sample answer:*

x	0	4
$y = \frac{1}{2}x$	0	2

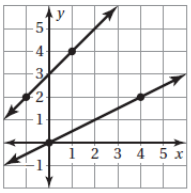
Sample answer: $(2, 1)$

2. *Sample answer:*

x	1	−1
$y = x + 3$	4	2

Sample answer: $(0, 3)$

Graph for Exercises 1 and 2



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

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

5. 0

6. $\frac{1}{2}$

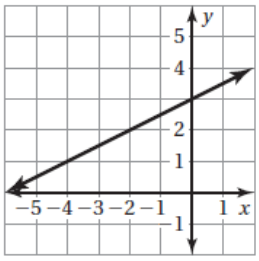
7. the sliding pole, because $\frac{5}{3} > \frac{3}{2}$

8. *Sample response:* $y = 2x + 1$

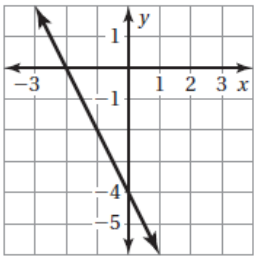
9. 3; -6 **10.** $-\frac{3}{4}$; -5 **11.** $\frac{7}{9}$; $-3\frac{1}{3}$

12. The y-intercept, -12, is the depth (12 m) at which the submarine starts at time 0. The slope -8 is the speed at which it descends, -8 m/min.

13.



14.



15. a. $6x + y = 9$

b. 9; The distance from home at which you start at time 0.

c. $1\frac{1}{2}$; The time after which you arrive home, in hours.

16. $y = \frac{3}{2}x + 1$ **17.** $y = x + 4$

18. $y = -2x + 1$ **19.** $y = -\frac{1}{2}x + 9$

20. a. slope $= \frac{4}{5}$; the kite rises 4 feet every 5 seconds (or the kite rises 0.8 ft per sec).

b. $y = \frac{4}{5}x + 4$

c. 16 ft

d. When you first let out the string, the height of the kite is 4 feet.