

Name _____

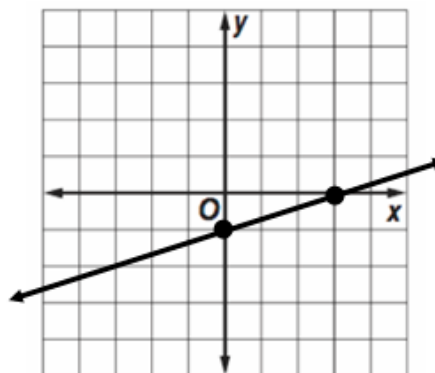
Date _____ Per _____

Algebra Unit 2 Practice Test – Linear Functions

Part 1: The Big Picture (Multiple Choice)

Use the graph below to answer questions #1-3. Show work when necessary.

1. What are the intercepts?
 - a. x-intercept (0, 3), y-intercept (-1, 0)
 - b. x-intercept (3, 0), y-intercept (0, -1)
 - c. x-intercept (-1, 0), y-intercept (0, 3)
 - d. x-intercept (0, -1), y-intercept (3, 0)

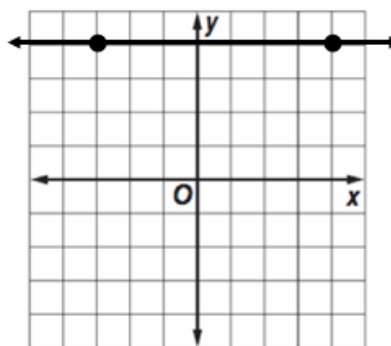


2. What is the slope of the line?
 - a. 3
 - b. -3
 - c. $-\frac{1}{3}$
 - d. $\frac{1}{3}$

3. What is the equation of the line?
 - a. $y = -\frac{1}{3}x + 1$
 - b. $y = -\frac{1}{3}x - 1$
 - c. $y = \frac{1}{3}x - 1$
 - d. $y = 3x - 1$

Use the graph below to answer questions #4-6:

4. What are the intercepts of the line?
 - a. x-intercept: (4, 4), y-intercept: (0, 4)
 - b. x-intercept: none, y-intercept: none
 - c. x-intercept: none, y-intercept: 4
 - d. x-intercept: 4, y-intercept: none



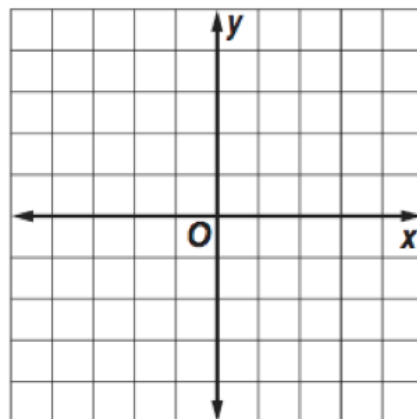
5. What is the slope of the line?
 - a. 0
 - b. undefined
 - c. IDK
 - d. 4

6. What is the equation of the line?
 - a. $y = 4x$
 - b. $x = 4y$
 - c. $y = 4$
 - d. $x = 4$

Part 2: Creating Tables and Graphs

7. Create a table of values and a graph for the equation $y = 3x - 1$

x	<i>plug in and simplify</i>	y
-2		
-1		
0		
1		
2		



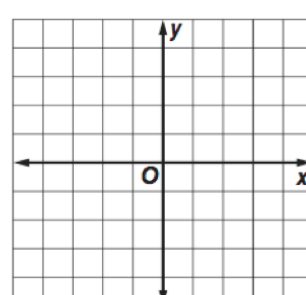
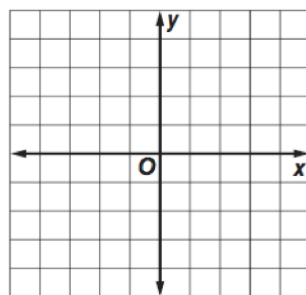
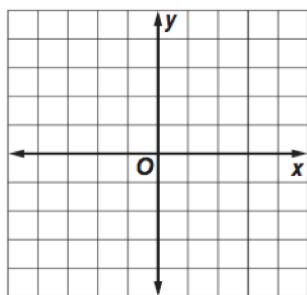
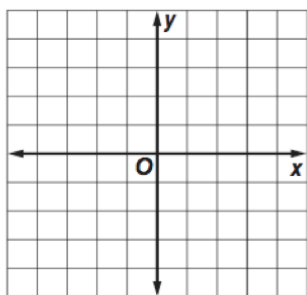
For #8-11, graph the given equation.

8) $y = -2x + 3$

9) $y = 3(x - 2) + 1$

10) $y = -2$

11) $y = \frac{1}{2}(x - 3) - 4$



Part 3: Function Notation, Slope, and Intercepts

Questions

12. If $f(x) = 5x - 2$, what is the value of $f(4)$?

13. If $g(x) = x^2 + 6$, what is the value of $g(-5)$?

14. A line goes through the points $(3, -7)$ and $(6, 8)$.

What is the slope of the line?

15. Consider the equation $8x - 4y = 8$.

a) What is the x -intercept of the line?

b) What is the y -intercept of the line?

c) Graph the equation $8x - 4y = 8$.

Answers

12. $f(4) =$ _____

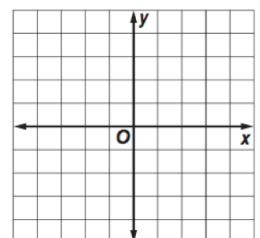
13. $g(-5) =$ _____

14. *Slope* = _____

15a. x -int: (,)

15b. y -int: (,)

15c.



a. $y = 2(x - 2) + 5$

b. $y = 2(x + 2) + 5$

Part 4: Equations of Lines – Point-Slope Form

c. $y = \frac{1}{2}(x - 2) + 5$

Questions

d. 16. A line has slope = 5 and goes through the point (1, 3). What is the equation of this line **in point-slope form**? (*Multiple Choice*)

a. $y = 5(x - 1) + 3$

b. $y = 5(x + 1) + 3$

c. $y = 5(x - 1) - 3$

d. $y = 5(x + 1) - 3$

17. A line has slope = -9 and goes through the point (-4, -2). What is the equation of this line **in point-slope form**? (*Multiple Choice*)

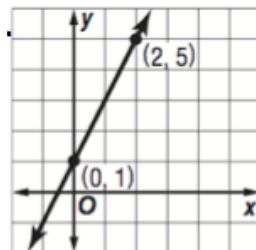
a. $y = -9(x - 4) - 2$

b. $y = -9(x - 4) + 2$

c. $y = -9(x + 4) - 2$

d. $y = -9(x + 4) + 2$

18. Which equation describes the line shown below in **point-slope form**? (*Multiple Choice*)



19. A line goes through the points (-3, -5) and (-10, 2). What is the equation of this line **in point-slope form**? (*Note: there is more than one answer!*)

20. Convert $y = 8(x - 3) + 4$ into **slope-intercept form**:

Answers

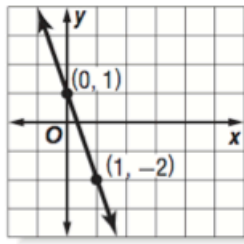
16. _____

17. _____

18. _____

19. _____

20. _____



Part 5: Equations of a Line in Slope-Intercept Form

Questions

21. A line has slope -3 and y-intercept $(0, 1)$. What is the equation of the line in **slope-intercept form**? (*Multiple choice*)

- a. $y = -7x - 3$
- b. $y = 7x - 3$
- c. $y = -3x - 7$
- d. $y = -3x + 7$

22. A line has slope $= 0$ and goes through the point $(1, 6)$. What is the equation of the line in **slope-intercept form**? (*Multiple choice*)

- a. $y = 1$
- b. $x = 1$
- c. $y = 6$
- d. $x = 6$

23. What is the equation of the graph shown below? (*Multiple choice*)

- a. $y = -3x - 1$
- b. $y = -3x + 1$
- c. $y = \frac{1}{3}x - 1$
- d. $y = \frac{1}{3}x + 1$

24. A line has slope $= 5$ and goes through the point $(3, 7)$. Write the equation of the line in **slope-intercept form**.

25. A line goes through the points $(-1, -5)$ and $(2, 4)$. Write the equation of the line in the form **slope-intercept form**.

Answers

21. _____

22. _____

23. _____

24. _____

25. _____