

MasterMath

Name _____

Algebra 1 Quarter 2 Assessment

Date _____

Closed Book; 45 minutes to complete

CUGC; You may use a calculator.

1. A point is 3 units to the right of the origin, and 11 units down from the origin. What are the coordinates of the point?

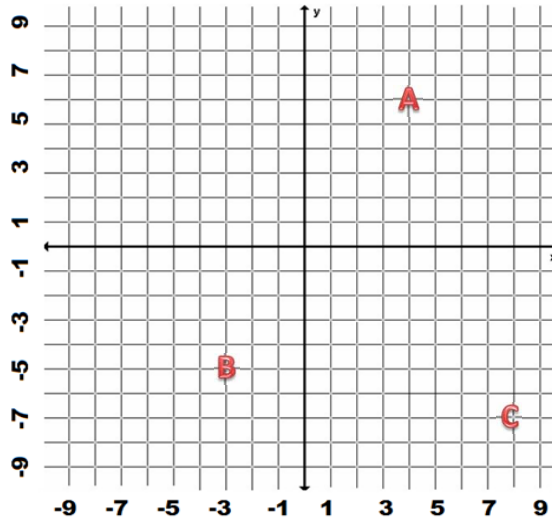
(3, -11)

2. Plot and label these points:

A: (4, 6)

B: (-3, -5)

C: (8, -7)



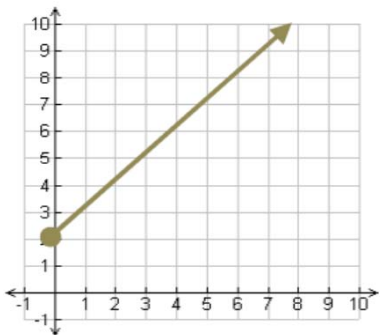
3. Does point (3, 3) fall on the line for the equation $y = 3x - 6$?

yes

4. The coordinates of Point A are (-4, -6). If Point A is translated 3 units up, what are its new coordinates?

(-4, -3)

5. What is the domain and range of the function graphed below?

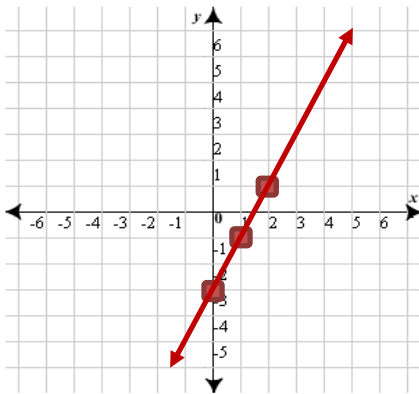


domain	$x \geq 0$
range	$y \geq 2$

6. Joe had a summer job that pays \$7.00 an hour and he worked between 15 and 35 hours every week. His weekly salary can be modeled by the equation: $S = 7h$, where S is his weekly salary and h is the number of hours he worked in a week. Last week he worked 22.66 hours. Answer the questions below:

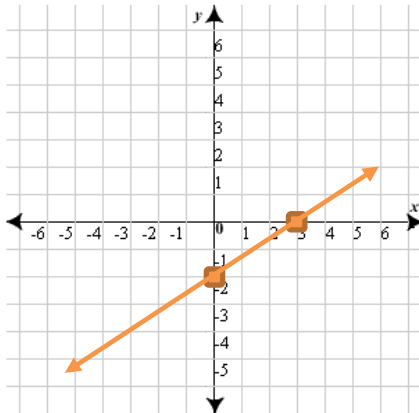
Domain	$15 \leq x \leq 35$	
Range	$105 \leq x \leq 245$	
Continuous or Discrete	continuous	
	x	y
	0	-3
	1	-1
	2	1

7. Complete the table and then graph $y = 2x - 3$

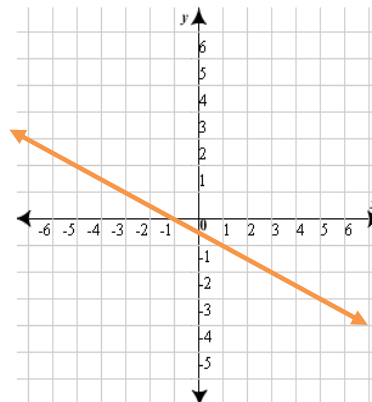


8. Find the x and y intercepts and use them to graph this equation: $2x - 3y = 6$

x Intercept	(3, 0)
y intercept	(0, -2)



9. What is the slope of this line?

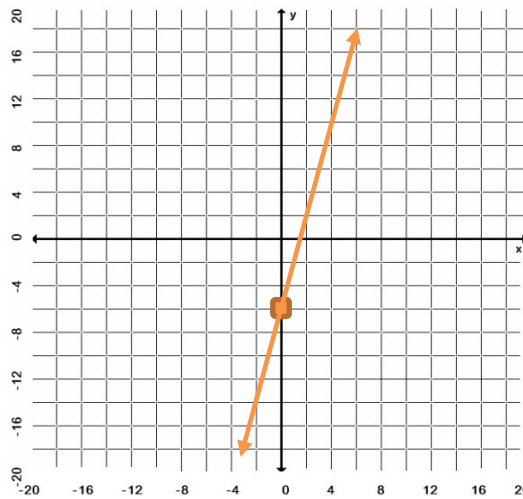


-2

10. What is the slope of a line that passes through these two points: (3, 5) and (-2, 10)

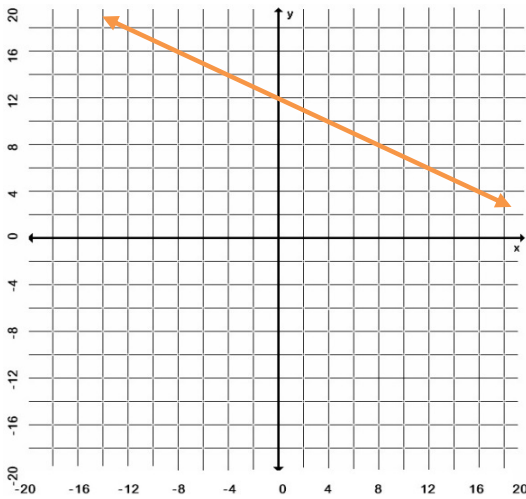
-1

11. Convert this equation to Slope-Intercept Form and then graph: $4x - y = 6$



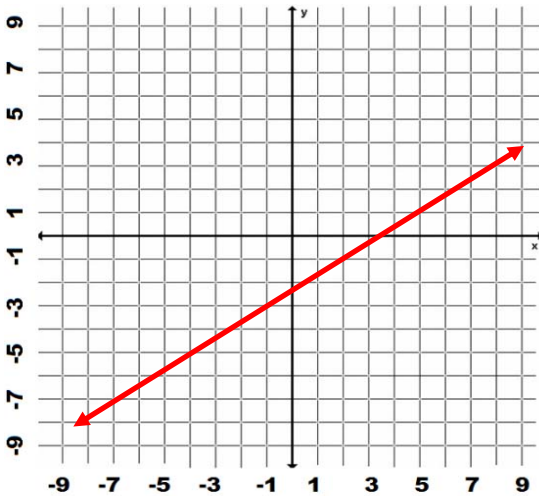
$y = 4x - 6$

12. What is the equation in Slope-Intercept Form for the line graphed here?



$y = -2x + 12$

13. Does this line represent Direct Variation. Explain your answer.



No. A Direct Variation includes the Origin, point (0, 0).

14. Evaluate this function for $x = -3$.

$f(x) = 2x - 4$

$f(-3) = -10$

15. Create an equation in Function Form that describes the relationship between x and y shown here. Is it a Direct Variation?

x	-2	-1	0	1	2
y	-8	-4	0	4	8

$f(x) = 4x$
yes

16. Find the equation in Slope-Intercept Form for a line that includes these points: (6, 4) and (0, 2).

$$y = \frac{1}{3}x + 2$$

17. A line has a slope of -6 and includes the point (-2, 8). What is the equation for this relationship?

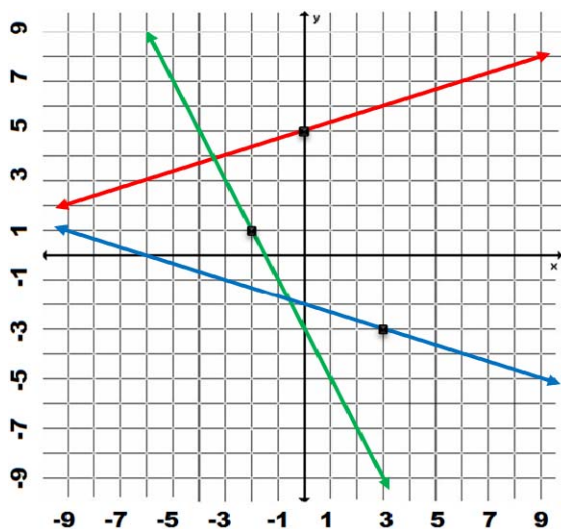
$$y = -6x - 4$$

18. A linear function f includes these values: $f(5) = 10$; $f(0) = -10$. Write an equation for this function.

$$f(x) = 4x - 10$$

19. The cost of shipping a package to Bangkok, Thailand is \$20 plus an additional charge for each ounce that the package weighs. It costs you \$53 to send your 11 oz. package to Bangkok. What is the charge per ounce?

$$\$3.00$$



20. What is the equation of the red line above in Point-Slope Form? Use the point marked on the line.

$$y - 5 = \frac{1}{3}x$$

21. What is the equation of the blue line in Standard Form?

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

22. What is the equation of the green line above in Point-Slope Form? Use the point marked on the line.

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

23. Write an equation in Point-Slope Form for a line that passes through (4, 2) and (6, 6). Use (6, 6) as your point.

$$y - 6 = 2(x - 6)$$

24. Place an "x" in the box on the right that identifies the form of each of these equations:

Equation	Slope-Intercept	Standard	Point-Slope
$3x - 6y = -12$		x	
$y = 3x - 12$	x		
$y = 2(x - 4)$			x

25. Are these lines parallel or perpendicular: $6x - 2y = -6$; $x + 3y = 9$

Perpendicular

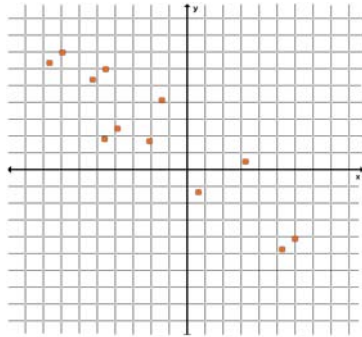
26. Write an equation for a line that is parallel to $y = 4 - x$, and passes through (1, -3)

$$y = -x - 2$$

27. Find the slope of a line that is perpendicular to a line that passes through the points (3, 7) and (-2, -3).

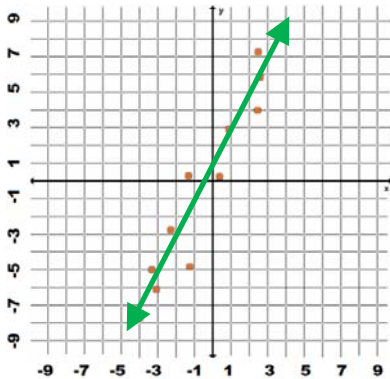
-1/2

28. Describe the relationship between the x and y variables shown on this scatter plot.



Fairly strong Negative Correlation

29. The green line best-fits the data plotted on this graph. If we were to use this line to predict the value of y when $x = 25$, what type of prediction would this be?



Extrapolation