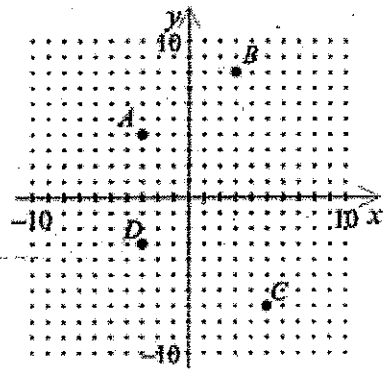
Name: Key 2018 - 2019 Period: _____ Date: _____ ID: A

Algebra Prep Study Guide for Quiz 4.1 - 4.3 (Alg 1 text)

These questions cover the following objectives from the first three sections of chapter 4. After completing the study guide go back through and identify which objective the question covers by putting the correct letter by the problem number.

A. Identify and plot points in the coordinate plane.
B. Identify the domain and range of a function.
C. Determine whether an ordered pair is a solution to an equation.
D. Graph a line using a table of values.
E. Write a line in standard form.
F. Find the x - and y - intercepts of a line algebraically or graphically.
G. Graph a line using its x - and y - intercepts.
H. Determine whether a relation is a function.

1. Name the coordinates of the points *A* and *B* and give their locations.



A (-3, 4) Quadrant II

B (3, 8) Quadrant I

2. Does the input-output table represent a function? Why or why not? If it does represent a function, list the domain and range.

Input	3	4	5	6
Output	14	19	24	29

yes, the table represents a function because each input has exactly 1 output.
D: {3, 4, 5, 6} R: {14, 19, 24, 29}

Identify the domain and range of the relation.

3. $(1, 3), (2, 6), (3, 9), (4, 12), (5, 15)$

D: {1, 2, 3, 4, 5}

R: {3, 6, 9, 12, 15}

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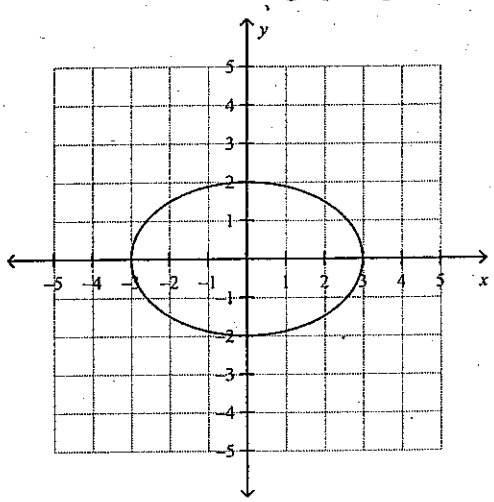
4. Determine whether the graph represents a function. Justify your answer.

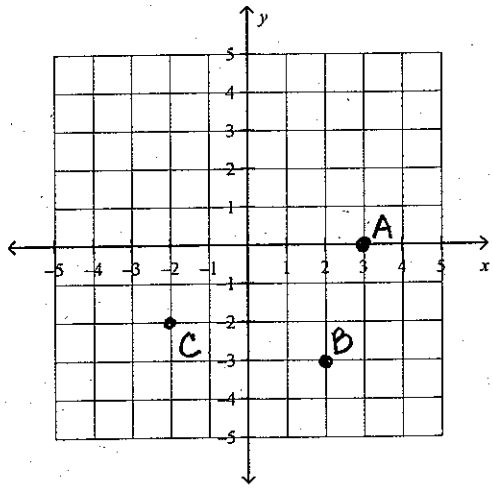


No, the graph does not represent a function because it fails the vertical line test.

Determine whether the relation is a function. Justify your answer.

5. $\{(-4, 1), (0, 0), (4, 0), (0, 4)\}$ No, the relation is not a function. The input 0 has 2 outputs (0 and 4).

6. Plot and label the points **A** (3, 0), **B** (2, –3), and **C** (–2, –2).



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7. Find two solutions of the equation $3x - 4y = 36$. Show your work. *(There are an infinite number of solutions - just give two ordered pairs that work!)*

$x = 0$ $3(0) - 4y = 36$

$-4y = 36$

$y = -9$

$(0, -9)$

$y = 0$ $3x - 4(0) = 36$

$3x = 36$

$x = 12$

$(12, 0)$

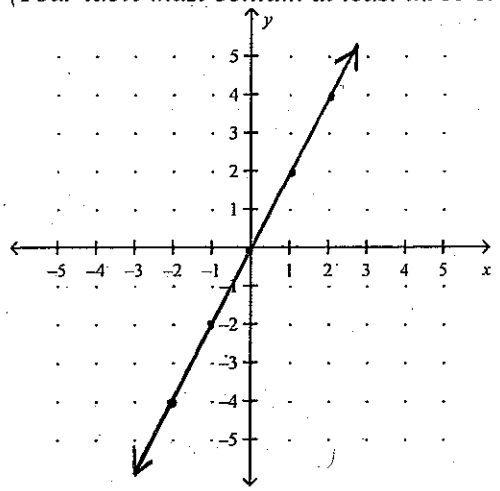
Other points

$(4, -6)$ $(8, -3)$

$(16, 3)$

$(-4, -12)$

8. Graph the following equation by creating a table and plotting points. $y = 2x$
(Your table must contain at least three ordered pairs for full credit)

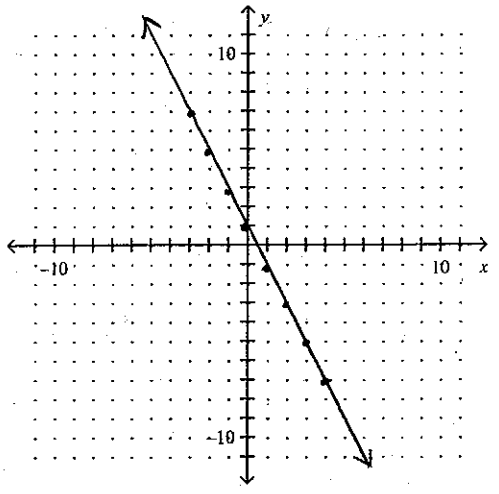


x	y
-1	-2
0	0
1	2

$y = 2(-1)$

$y = -2$

9. Graph the following equation by creating a table and plotting points. $y = -2x + 1$
(Your table must contain at least three ordered pairs for full credit)



x	y
-1	3
0	1
1	-1

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

$y = 2 + 1 = 3$

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10. What is the y-intercept of the line with the equation $4x + 9y = -108$? Give the y-intercept as a point and show work for full credit.

y-int. let $x = 0$

$4(0) + 9y = -108$

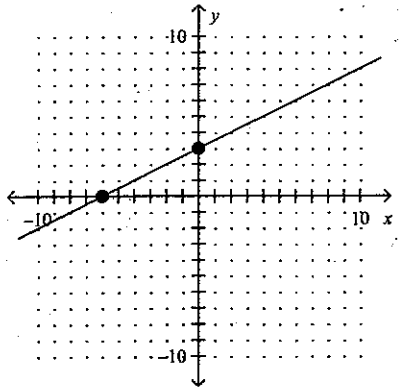
$9y = -108$

$y = -12$

y-int. $(0, -12)$

Identify the x-intercept and the y-intercept of the line. Give your answer as two points.

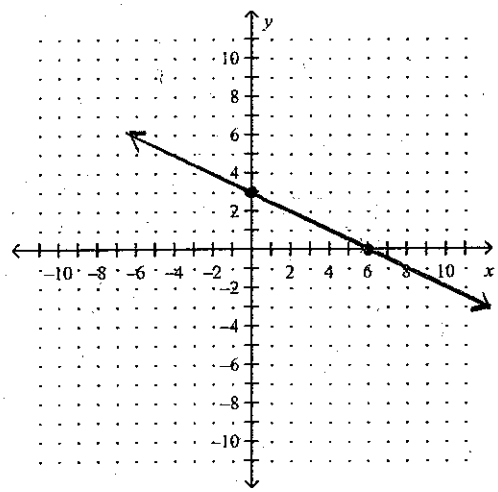
11.



x-int. $(-6, 0)$

y-int. $(0, 3)$

12. Graph the linear equation $3x + 6y = 18$ **by finding the x- and y-intercepts**. Label the points as the x- and y-intercept. *You must show your work for finding the intercepts for full credit on this question.*



x-int. let $y = 0$

$3x + 6(0) = 18$

$3x = 18$

$x = 6$

x int. $(6, 0)$

y-int. let $x = 0$

$3(0) + 6y = 18$

$6y = 18$

$y = 3$

$(0, 3)$