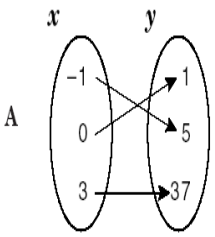
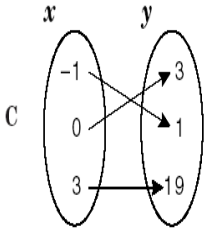
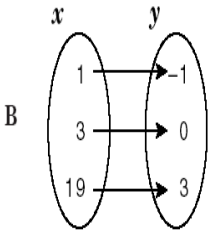
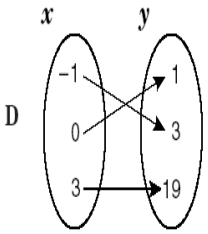
LINEAR TAKS Part 1

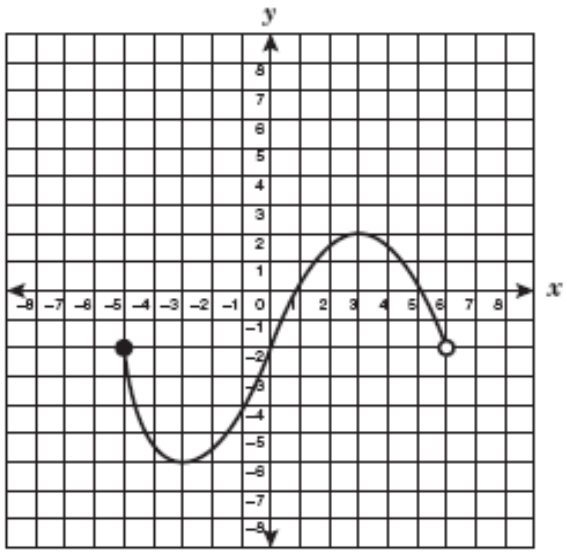
NAME AND CLASS PERIOD _____

$$y = mx + b$$

1. Which of the following sets does not represent a function? **F** $\{(-1,-1),(1,1),(2,2),(3,3),(4,4)\}$ **G** $\{(-1,0),(0,2),(1,4),(2,6),(3,8)\}$ **H** $\{(-1,2),(1,1),(1,-1),(2,1),(4,2)\}$ **J** $\{(-2,4),(-1,1),(1,1),(2,4),(3,9)\}$	1. y depends on x. 2. $h = 3q + 4$ even when it is not an x-y format, you can count on the fact that the left depends on the right 3. so, h depends on q 4. h is dependent and q is independent 5. numbers are not dependent **only variables!**
2. A graph is not a function unless all the _____ values are different. NO REPEATERS. The graph must pass the _____ Line Test in order to be classified as a function.	
3. Which mapping best represents the function $y = 2x^2 + 1$ when the replacement set for x is $\{-1, 0, 3\}$? A  C  B  D 	You have an equation, use the y= program …check table to see which is the correct set.
4.DOMAN AND RANGE If $(x, -4)$ is a solution to the equation $4x - 5y = 8$, what is the value of x? **A** -4.8 **B** -3 **C** 1.6 **D** 7	Anytime you see a coordinate point, there is an **x and y**. Here you need to find **x**. You have a **y** value so, substitute **-4** for **y** and solve for **x.**

5.COORDINATE POINTS

12 Mr. Maxwell asked his students to identify the domain represented by the function graphed below.



Which of the following student responses is correct?

F $-5 \leq x < 6$

G $-6 \leq x \leq 2$

H $-5 \leq x < -2$

J Not here

Domain = _____ values
Range = _____values.
A filled in dot means?_____
An open dot means?_____

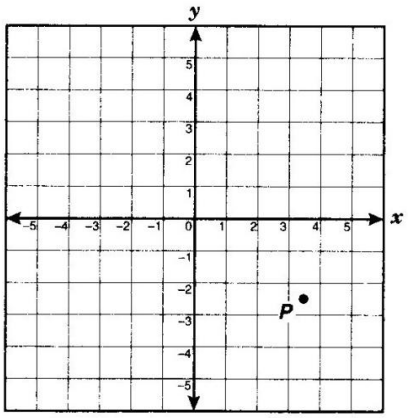
Domain and range of discrete graphs are written as a compound inequality.

Your domain has a horizontal floor; the domain of a graph is also horizontal. Reading from left to right, mark the beginning and end of the domain. Write down the numbers at the end points.

Range, a mountain *range* the ground shoots up vertical; the range of a graph also shoots up vertical. Reading from top to bottom, mark the beginning and end of the range. Write down the numbers at the end points.

6.

Which ordered pair best represents the coordinates of point P?



A $(-3.5, 4.5)$

B $(-2.5, 3.5)$

C $(3.5, -2.5)$

D $(4.5, -3.5)$

Ordered pairs are points on a graph. They are always written in (x, y) form. They are in alphabetical order.

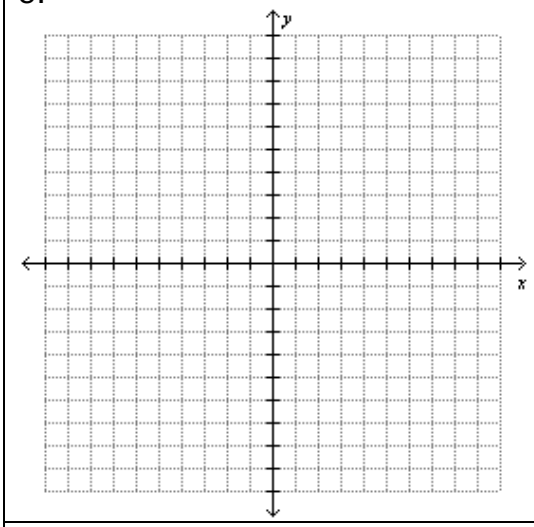
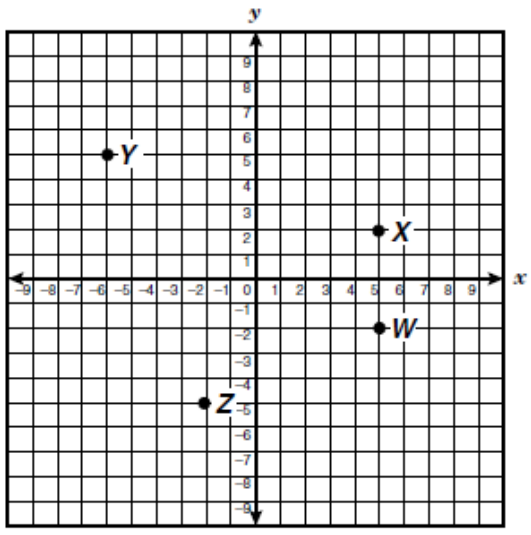
Ordered pairs are also called "coordinate points" on a graph.

Problems on TAKS are often written as ordered pair problems.

Label the quadrants with the appropriate negative and positive x-y signs.

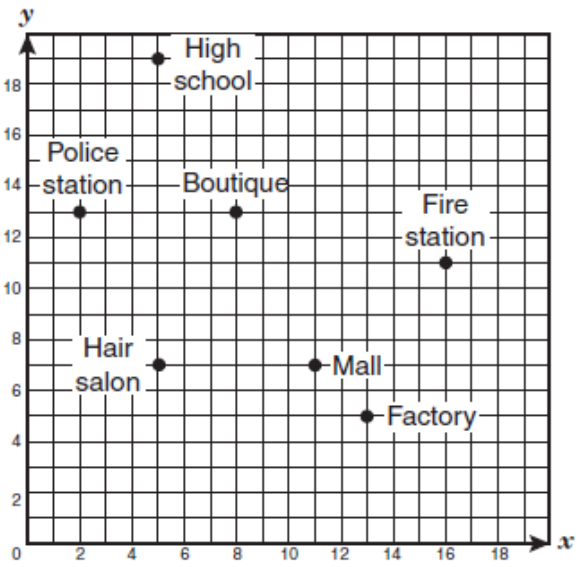
$$(+,+),(+,-),(-,-),and\ (-,+)$$

Now look at the answer selections which ones have the correct signs?

7. What is the value of y if $(3, y)$ is a solution to the equation $5x - 3y = 18$? F 3 G 1 H −1 J −11	OK, now here you know the **x** value, find your corresponding **y.**
8.  	Plot the ordered pairs: A B C D E F $(3,4), (4,-2), (0,0), (0,6), (5,0), (-3,-2)$
9. Which point on the grid satisfies the conditions $x \geq 5$ and $y < -1$?  F W G X H Y J Z	Where is $x \geq 5$? Draw the vertical line Where is $y < -1$? Draw the horizontal line Which point is in the common area?

10.

The owners of Crispy Sweet Doughnut Shop want to open a shop centrally located to the police station, the high school, the fire station, and the factory.



Based on the information given, which of the following points best represents the location where the new Crispy Sweet Doughnut Shop should open?

F (9, 12)

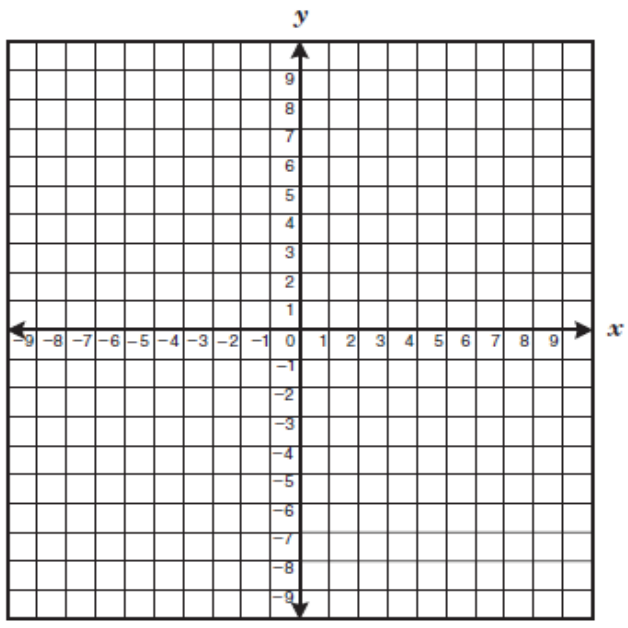
G (5, 13)

H (6, 10)

J (8, 13)

11.

A right triangle has two vertices with coordinates (0, 3) and (4, 1). Which coordinate could be a third vertex of this right triangle?



A (2, 2)

B (4, 4)

C (6, 5)

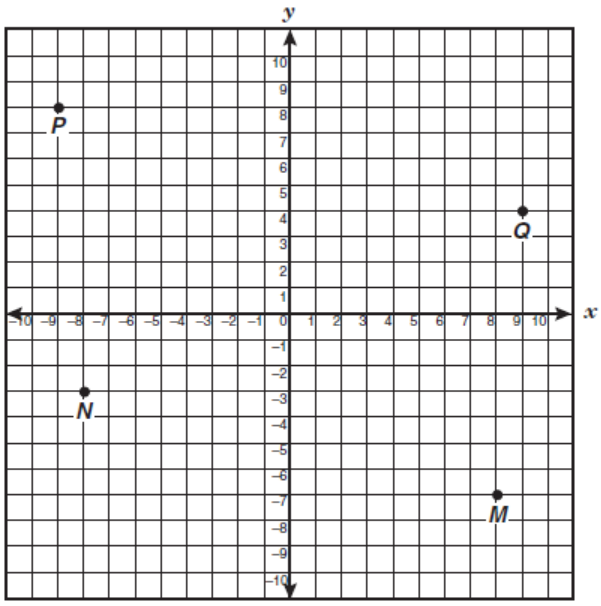
D (8, −1)

Plot the two points in the question.
Plot all the answer selections

Now, which answer makes a right triangle with the two given points. 90 °?

12.

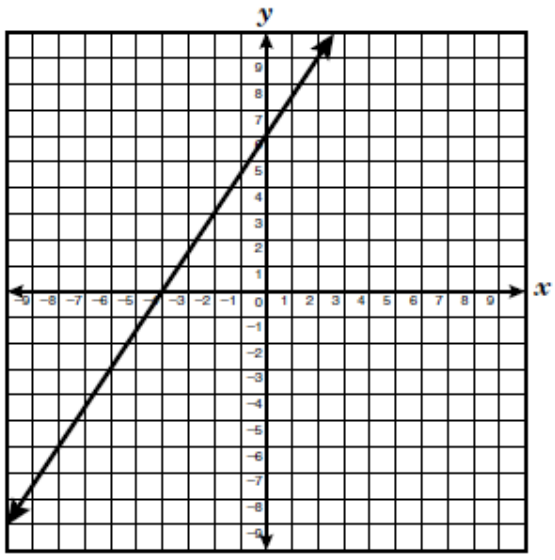
For which point is $x < -\frac{15}{2}$ and $y < -\frac{3}{2}$?



A M
B N
C P
D Q

13.

Which coordinate points represent the x- and y-intercepts of the graph shown below?



The line crosses the x-axis at the x-intercept! This point is:

(,)

The line crosses the y-axis at the y-intercept! This point is:

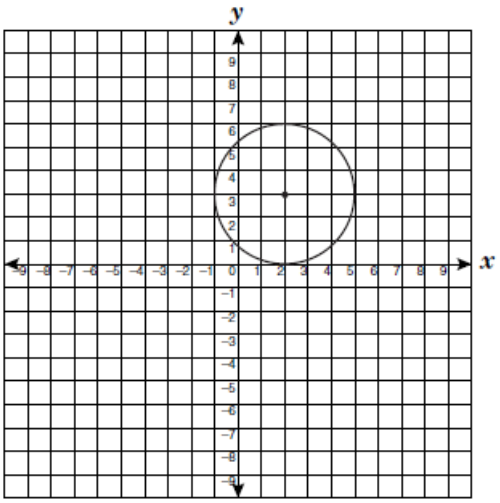
(,)

F $(0, -4)$ and $(6, 0)$
G $(-4, 0)$ and $(0, 6)$
H $(6, 0)$ and $(-4, 0)$
J $(0, 6)$ and $(0, -4)$

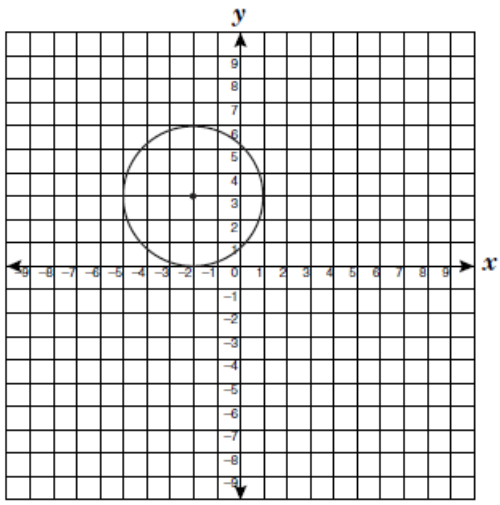
14.

Which circle has a center located at coordinates (–3, 2)?

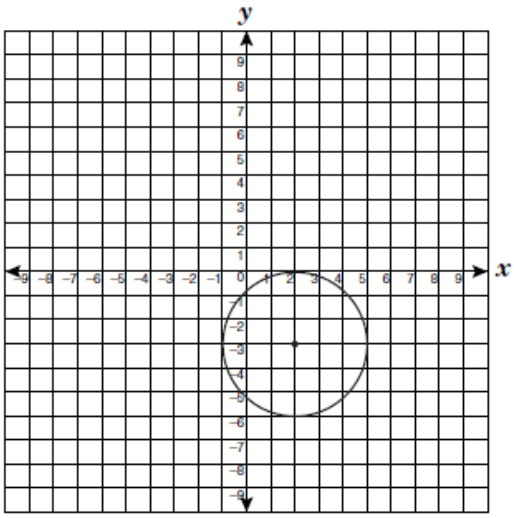
A



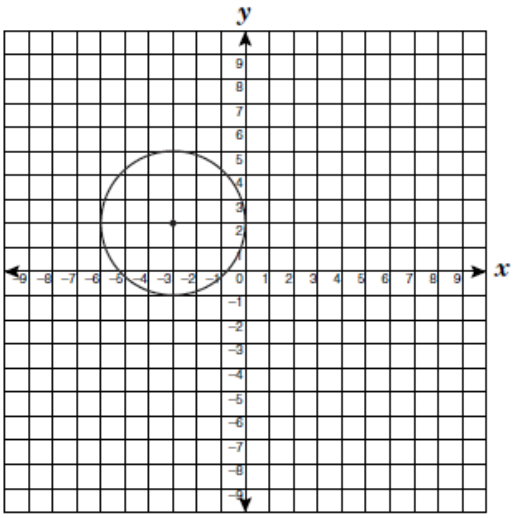
C



B

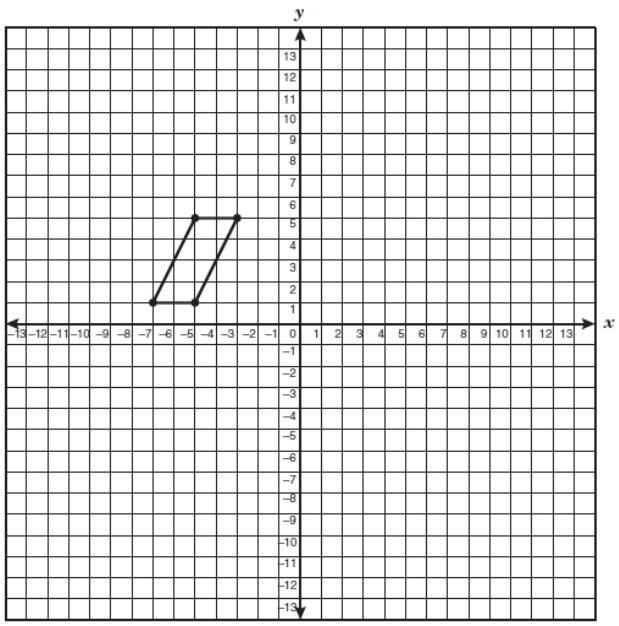


D



15.

A parallelogram is graphed on the grid.



Which set of coordinates identifies the vertices of a similar figure?

F $(-2, -1), (-4, -1), (-3, -6), (-5, -6)$

G $(0, -2), (0, -5), (8, 1), (8, -2)$

H $(1, 2), (1, 6), (9, 6), (9, 10)$

J $(-1, -1), (0, 3), (2, -1), (3, 3)$

The graph has corners at

_____, _____,

_____, _____

To be similar, the new figure must be proportional.

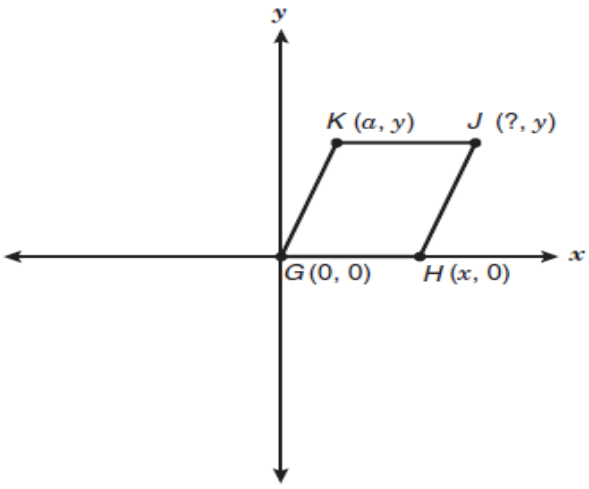
The graph is 4 units high and 2 units wide. (Check it)

Draw the other 4 figures on the graph.

The correct one must have the same multiples of 4 and 2, such as 2 and one
or 8 and 4.

16.

Parallelogram *GHJK* is shown below.



Which of the following represents the x-value of point J?

F $y - x$

G $x + y$

H $a + x$

J $x - a$

17.

What is the slope of the function $-6x - 2y = 8$?

F $\frac{1}{3}$

G -3

H -4

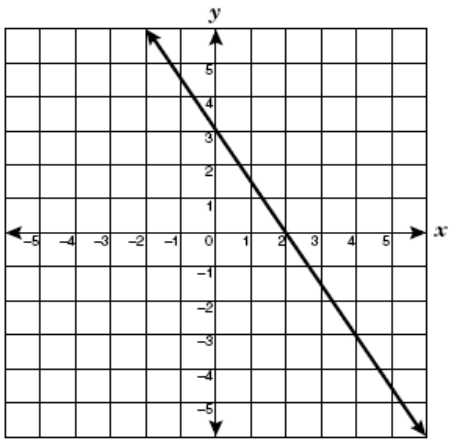
J 3

Change the equation to the slope-intercept form to get the slope.

$$y = mx + b$$

18.

Which equation best represents the graph below?



F $y = 3 - \frac{3}{2}x$

G $y = 3 - \frac{2}{3}x$

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

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

All the answers have 3 as the **y** intercept.

This is strictly a slope problem off the 2006 Exit TAKS Test.

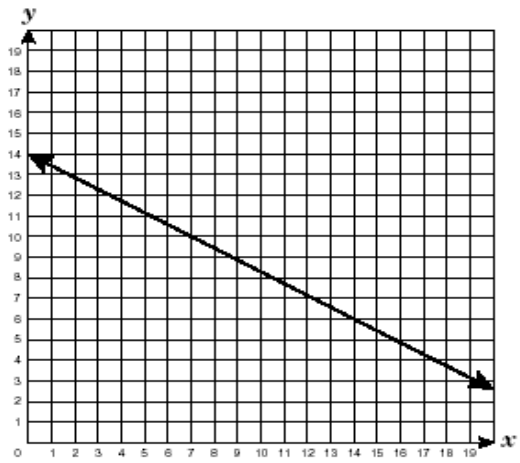
Is the slope positive or negative?_____

This eliminates _____ and_____

What is the slope?_____

19.

What is the slope of the linear function shown in the graph?



A $-\frac{7}{4}$

B $-\frac{4}{7}$

C $\frac{4}{7}$

D $\frac{7}{4}$

20.

Find the slope of the line $2y = 8x - 3$.

A $-\frac{3}{2}$

B 4

C 8

D Not here

21.

Which equation describes a line that has a y-intercept of 5 and a slope of $\frac{1}{2}$?

F $y = 5 + \frac{1}{2}x$

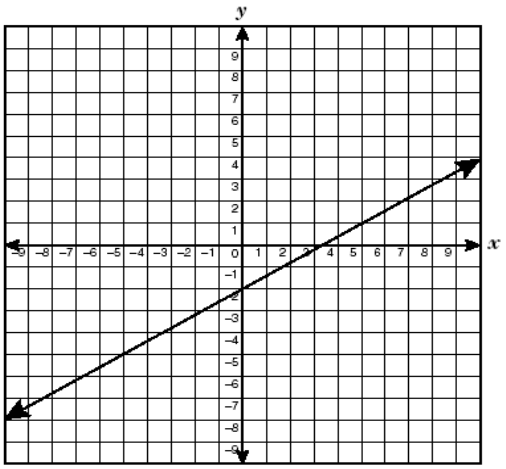
G $y = (5 + x)\frac{1}{2}$

H $y = 5x + \frac{1}{2}$

J $y = (5x + 1)\frac{1}{2}$

22.

26 What is the rate of change of the graph below?



F 3.5

G 1.67

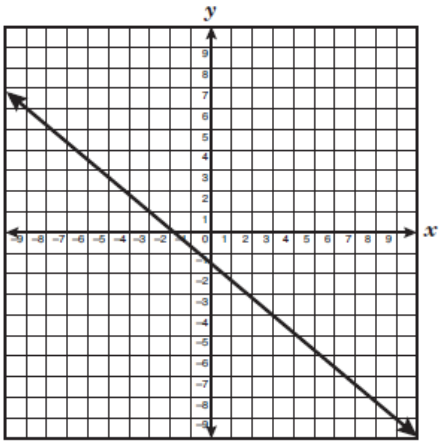
H 0.6

J −1.67

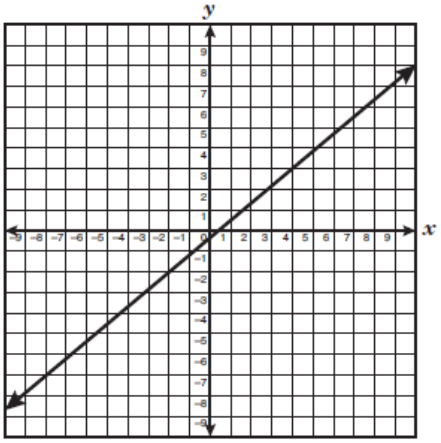
23.

Which graph best represents the line that has a slope of $-\frac{5}{6}$ and contains the point (4, −3)?

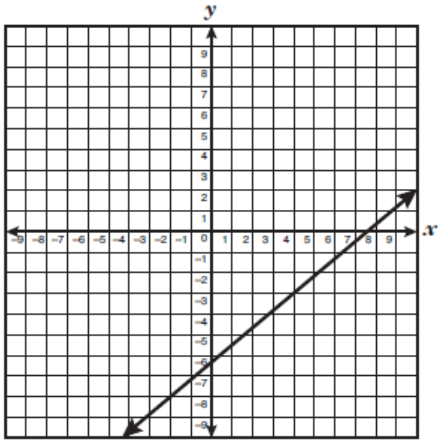
F



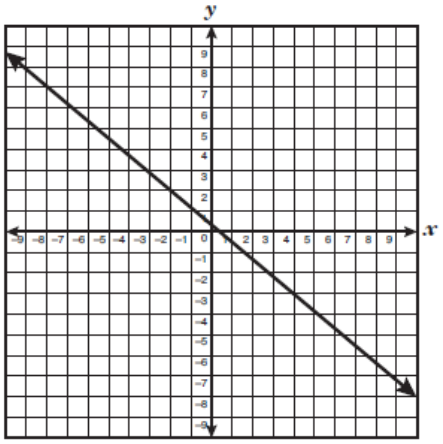
H



G



J



Which have negative slopes? Now which negative slope line has the point (4, -3)?

24.

Casey conducted an experiment and recorded the data in the table shown below.

x	y
1	1
2	2
3	5
4	10

Why is this table of values **not** a linear function?

_____

_____

25.

A sporting-goods store sold a total of 80 backpacks at the beginning of a new school year. Each backpack sold for either \$35 or \$50, not including tax. If x represents the number of \$35 backpacks the store sold, which expression represents the total amount of money in dollars from the sales of the two kinds of backpacks, not including tax?

F $35x + 50(x - 80)$

G $50x + 35(80 - x)$

H $35x + 50(80 - x)$

J $50x + 35(x - 80)$

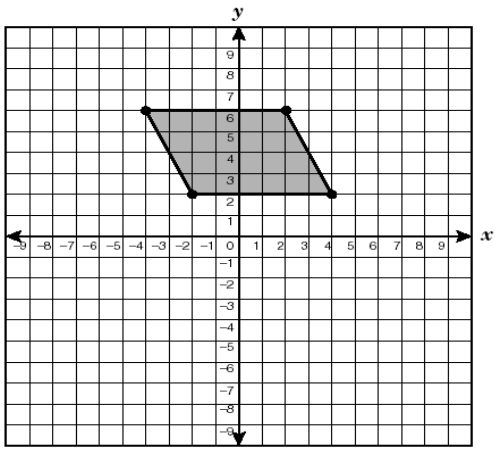
If 80 is the total backpacks and x is the \$35 backpack, how can we write the number of \$50 backpacks in terms of 80 and \$35?

( )

We will multiply this by \$_____

26.

3 A shaded parallelogram is graphed on the coordinate grid below.



Which of the following functions describes a line that would include an edge of the shaded parallelogram?

F $y = -2x + 5$

G $y = -2x - 2$

H $y = -2x + 9$

J $y = -2x - 1$

Slope? Since every answer has the same slope, this must be a y intercept problem.

Use a straight edge on BOTH diagonal lines and see where they touch the y-axis.

Be careful as you must be **precise**.

Better yet, with a slope – rise over run of – 2 over 1, continue the diagonal lines until they interest the y-axis

27. What is the equation of the line containing the points (7, 5) and (11, 9)? **A** $y = 4x$ **B** $y = x - 2$ **C** $y = 2x - 2$ **D** $y = x + 2$	Your equation will have a slope that may be calculated by the given points. Use the slope formula: $m = \frac{y_2 - y_1}{x_2 - x_1} =$ It does not matter which point is 1 and which is 2, just be consistent! Using your formula m=_____ Backdoor method: use the y= program and see which equation passes through both points.
28. Which equation describes the line passing through the points (3, 0) and (0, 4)? **F** $y = 3x + 4$ **G** $x = 4y + 3$ **H** $3x + 4y = 12$ **J** $4x + 3y = 12$	Hummmmmmm……. You could calculate the slope for the two points, but only one equation has the slope. You could just solve each for y and use the y= program, but that is a lot of work. Really, you need to plug in (3, 0) and (0, 4) and see which equation works?