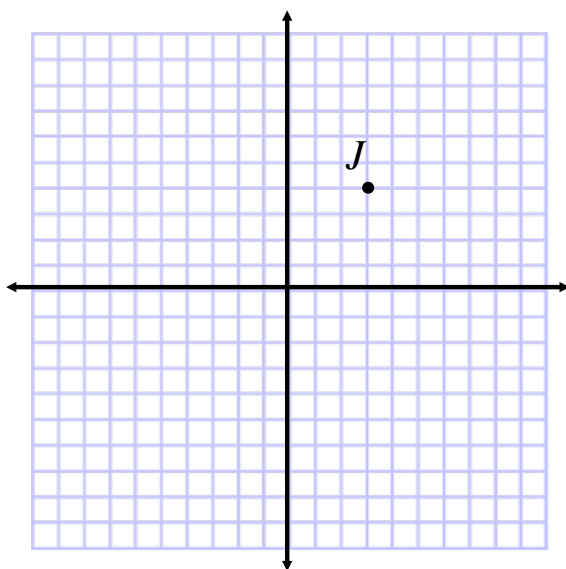


Algebra I Chapter 4 Review

Name the quadrant in which point J is located.

I



Write the ordered pair for point J .

$(3, 4)$

To plot the point $(1, -2)$, start at the origin and move...

right one unit and
down two units

TRANSFORMATIONS ON THE COORDINATE PLANE

Translation To translate a point...
 by an ordered pair (a, b) ,
 add "a" to x-coordinate
 add "b" to y-coordinate

$$(x, y) \rightarrow (x+a, y+b)$$

Dilation To dilate a figure...
 using scale factor k ,
 multiply both coordinates by k

$$(x, y) \rightarrow (kx, ky)$$

$k > 1$ image
is larger
 $0 < k < 1$ image
is smaller

TRANSFORMATIONS ON THE COORDINATE PLANE

Rotation To rotate a figure 90° counterclockwise about the origin...

switch coordinates
 multiply the new x by -1

To rotate a figure 180° about the origin...

multiply both coordinates by -1

$$90^\circ \text{ rotation: } (x, y) \rightarrow (-y, x)$$

$$180^\circ \text{ rotation: } (x, y) \rightarrow (-x, -y)$$

TRANSFORMATIONS ON THE COORDINATE PLANE

Reflection To reflect a point over the x-axis...

multiply y by -1

To reflect a point over the y-axis...

multiply x by -1

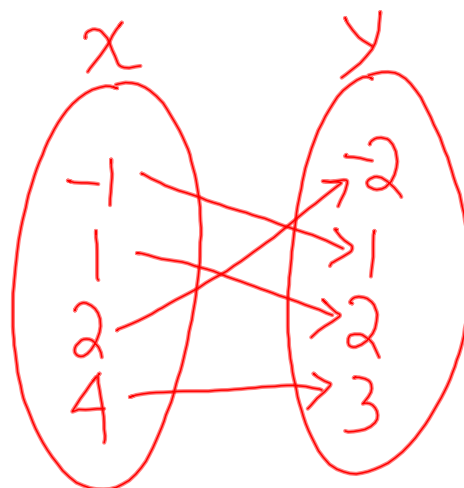
reflection over x-axis: $(x, y) \rightarrow (x, -y)$

reflection over y-axis: $(x, y) \rightarrow (-x, y)$

Show the relation $\{(-1, 1), (1, 2), (2, -2), (4, 3)\}$ as a table and a mapping.

set notation

x	y
-1	1
1	2
2	-2
4	3



What is the inverse of the relation $\{(0, 1), (1, 0), (3, -4)\}$?

$$\{(1, 0), (0, 1), (-4, 3)\}$$

Solve the equation $y = 3x$ if the domain is $\{-1, 0, 1\}$.

x	$3x$	y
-1	$3(-1)$	-3
0	$3(0)$	0
1	$3(1)$	3

$$\{(-1, -3), (0, 0), (1, 3)\}$$

The distance d a car travels in t hours is given by the function $d = 55t$.
Find d when $t = 5$.

$$d = 55 \cdot 5$$

$$d = 275$$

Which equation is a linear equation?

- A. $4m^2 = 6$ **B.** $3a + 5b = -3$ C. $\frac{2}{3}xy - \frac{3}{4}y = 0$ D. $x^2 + y^2 = 0$

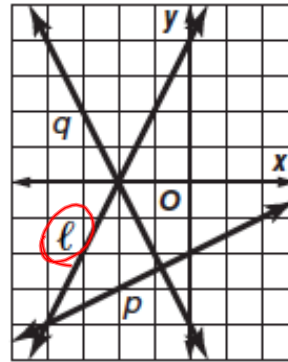
A = B not both 0

A ≥ 0

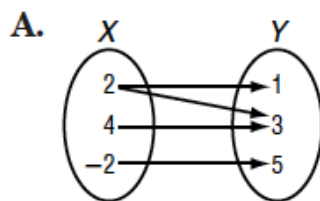
integers

Which line is the graph of $y = 2x + 4$?

$$\begin{array}{l}
 x=0 \\
 y=2(0)+4 \\
 y=4 \\
 (0,4)
 \end{array}
 \qquad
 \begin{array}{l}
 y=0 \\
 0=2x+4 \\
 \underline{-4 \quad -4} \\
 -4=2x \\
 \frac{-4}{2}=\frac{2x}{2} \\
 -2=x \\
 (-2,0)
 \end{array}$$



Which relation is a function?



B.

x	3	4	4	5
y	-1	2	3	6

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

D. $\{(3, 0), (-2, -2), (7, -2), (-2, 0)\}$

A. $\{(1, 1), (1, 2)\}$

B. $x - 5 = 1$

C. $y = 9$

D. $x = 2$

If $h(r) = \frac{2}{3}r - 6$, what is the value of $h(-9)$?

Determine which sequence is an arithmetic sequence.

A. 3, 6, 12, 24, ...

B. $\frac{1}{5}, \frac{1}{7}, \frac{1}{9}, \frac{1}{11}, \dots$

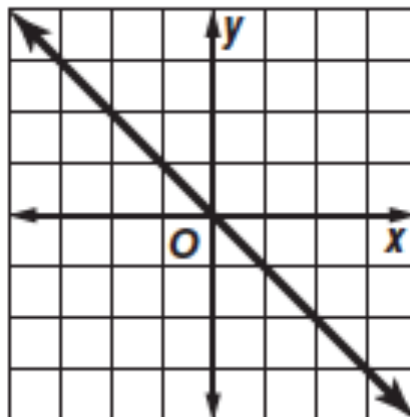
C. -7, -3, 1, 5, ...

D. -10, 5, $-\frac{5}{2}, \frac{5}{4}, \dots$

Find the next three terms of the arithmetic sequence 5, 9, 13, 17, ...

Find the next two numbers of the sequence 1, 2, 4, 8, 16, ...

Write an equation in function notation for the relation graphed on the coordinate plane.



Chapter 4 Test on Monday

Ways to prepare:

Chapter 4 Study Guide and Review... pgs. 246-250

Chapter 4 Practice Test... pg. 251