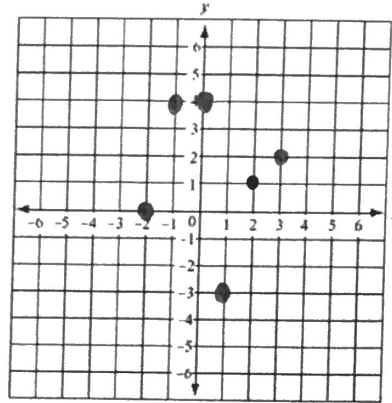


Name KEY Date _____

Functions and Relations Introduction

Given the relation $\{(2,1), (0,4), (3,2), (-1,4), (-2,0), (1,-3)\}$.

1. Graph the points :

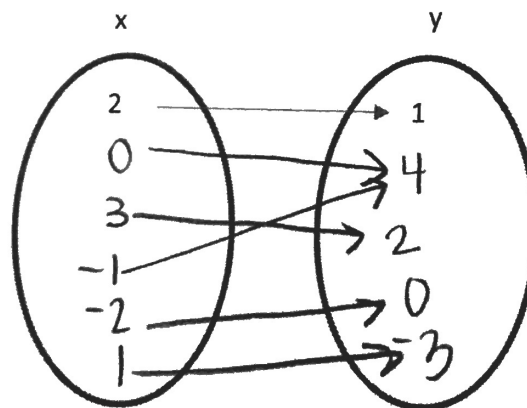


2. Put point in a table:

x	y
2	1
0	4
3	2
-1	4
-2	0
1	-3

x	2	0	3	-1	-2	1
y	1	4	2	4	0	-3

3. Put into a mapping:



4. Domain (x-values): $\{ \underline{2, 0, 3, -1, -2, 1} \}$

5. Range (y-values): $\{ \underline{1, 4, 2, 0, -3} \}$

Part 2: The equation $y = 2x - 1$ can be written in function notation as $f(x) = 2x - 1$. The $f(x)$ replaces y . If you say $f(2)$, that means you plug in 2 for x . $f(2) = 3$, means that you got out 3 when you plugged in 2 for x .

1. Put points in a table: Use $f(x) = 2x - 1$

Plug these in for x to get $f(x)$.

x	f(x)
-2	-5
-1	-3
0	-1
1	1
2	3
3	5

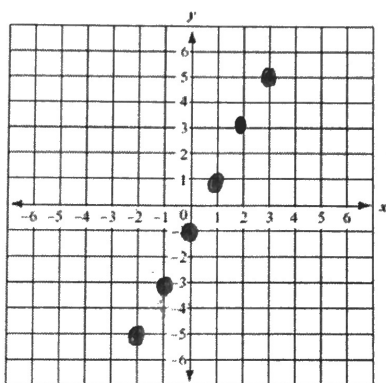
$2(-2) - 1 = -4 - 1$
 $2(-1) - 1 = -2 - 1$
 $2(0) - 1 = 0 - 1$
 $2(1) - 1 = 2 - 1$
 $2(2) - 1 = 4 - 1$
 $2(3) - 1 = 6 - 1$

x	-2	-1	0	1	2	3
f(x)	-5	-3	-1	1	3	5

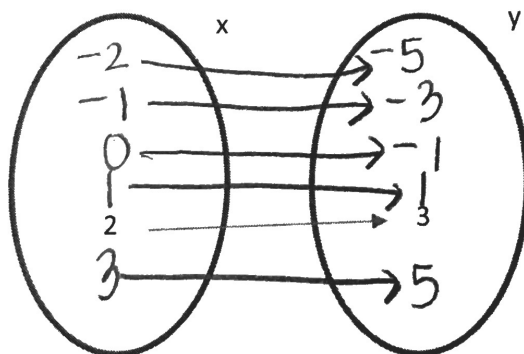
2. Put points in ordered pair notation: $\{(-2, -5), (-1, -3), (0, -1), (1, 1), (2, 3), (3, 5)\}$

3. Graph the points:

(DON'T connect!)



4. Put into a mapping:



5. Domain (x-values): $\{-2, -1, 0, 1, 2, 3\}$, Range (y-values): $\{-5, -3, -1, 1, 3, 5\}$

6. Find:

a. $f(2) = 3$

b. $f(0) = -1$

c. $f(1) = 1$

d. $f(3) = 5$

e. $f(-2) = -5$

f. $f(-1) = -3$

7. Challenge: If $f(x) = 9$, then $x = 5$.

$$\begin{array}{r} 9 = 2x - 1 \\ +1 \quad +1 \\ \hline 10 = 2x \end{array}$$

$$\frac{10}{2} = \frac{2x}{2}$$

$$\boxed{x = 5}$$