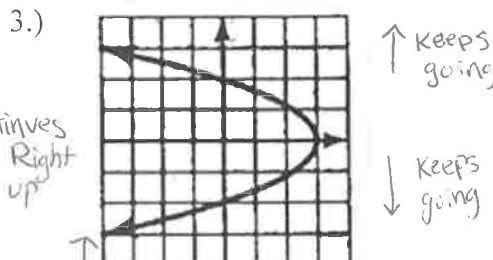
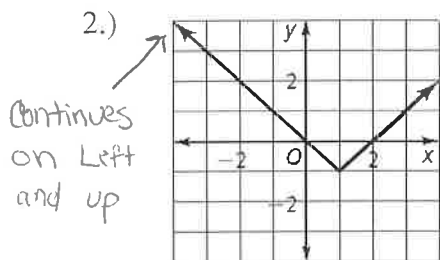
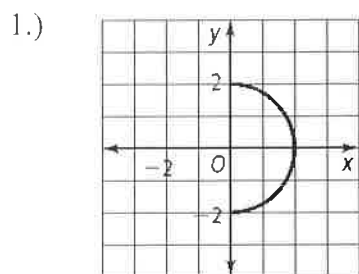


Continuous: Inequalities

For each of the following, find the domain and range. Then, tell whether it is a function.



$L \leftrightarrow R$
x Domain: $\{0 \leq x \leq 2\}$

y Range: $\{-2 \leq y \leq 2\}$

Function? Yes or No, Explain.

Fails vertical line test!

Domain: $\{R\}$

Range: $\{y \geq -1\}$

Function? Yes or No, Explain.

Passes the vertical line test!

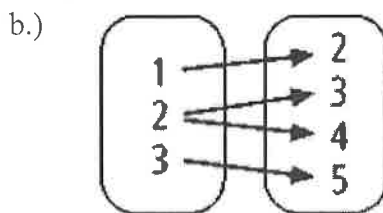
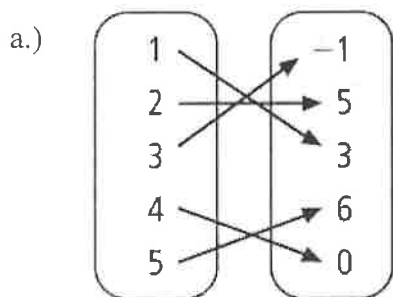
Domain: $\{x \leq 3\}$

Range: $\{R\}$

Function? Yes or No, Explain.

Fails the vertical line test

4.) Use the mapping diagram to write the relation as a set of ordered pairs. Then, tell whether or not it is a function and explain why or why not.



$\{(1,3)(2,5)(3,-1)(4,6)(5,0)\}$

$\{(1,2)(2,3)(2,4)(3,5)\}$

Look at x-values...

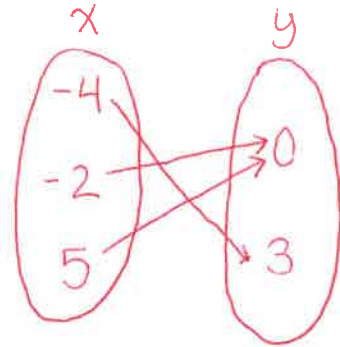
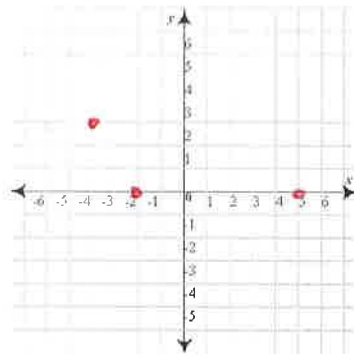
*Yes it is a function \rightarrow
each x has exactly one y-value.

*Not a function \rightarrow
the x-value of 2 has two different y-values

5.) Express each relation as a table, a graph and a mapping diagram. Then, state the domain, range and tell whether or not it is a function.

a.) $\{(-2, 0), (5, 0), (-4, 3)\}$

x	y
-2	0
5	0
-4	3



$$D: \{-4, -2, 5\}$$

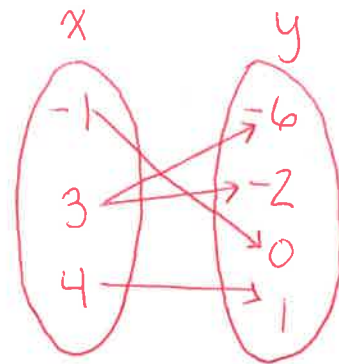
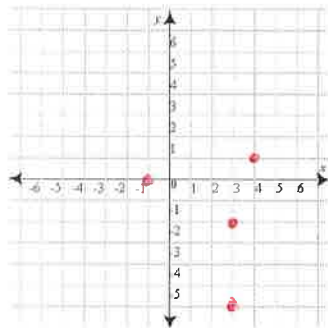
$$R: \{0, 3\}$$

Function?

yes it is a function, each x has exactly one y -value.

b.) $\{(3, -2), (4, 1), (-1, 0), (3, -6)\}$

x	y
3	-2
4	1
-1	0
3	-6



$$D: \{-1, 3, 4\}$$

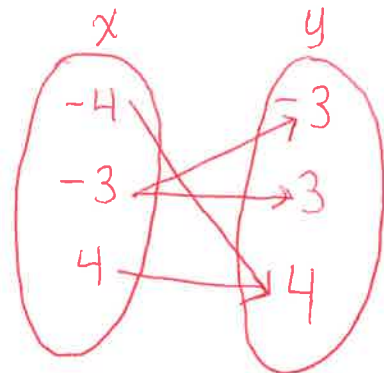
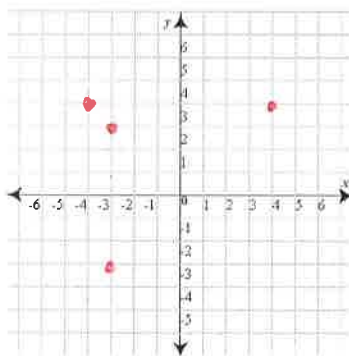
$$R: \{-6, -2, 0, 1\}$$

Function?

No it is not a function. The x -value of 3 has two different y -values.

c.) $\{(-3, 3), (-4, 4), (4, 4), (-3, -3)\}$

x	y
-3	3
-4	4
4	4
-3	-3



$$D: \{-4, -3, 4\}$$

$$R: \{-3, 3, 4\}$$

Function?

No it is not a function. The x -value of -3 repeats with two different y -values.