4 - 3
Relations

relation: a set of ordered pairs

1.) ordered pairs

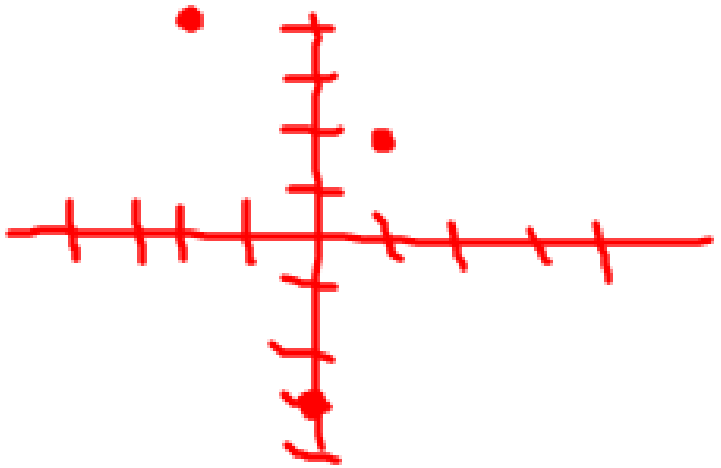
(1,2) (-2,4) (0,-3)

2.) table

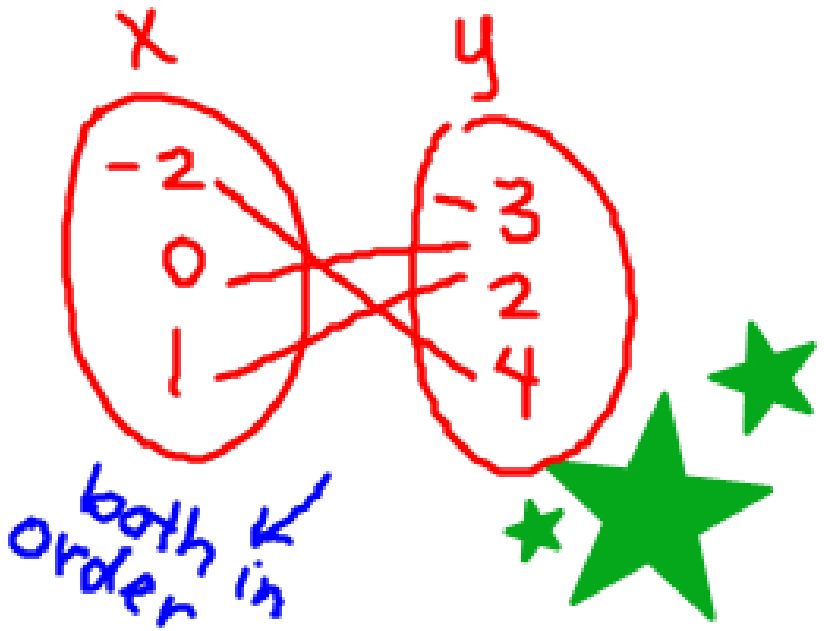
x	y
-2	4
0	-3
1	2

x in order

3.) graph



4.) mapping



domain: list of all x's

$D = \{-2, 0, 1\}$

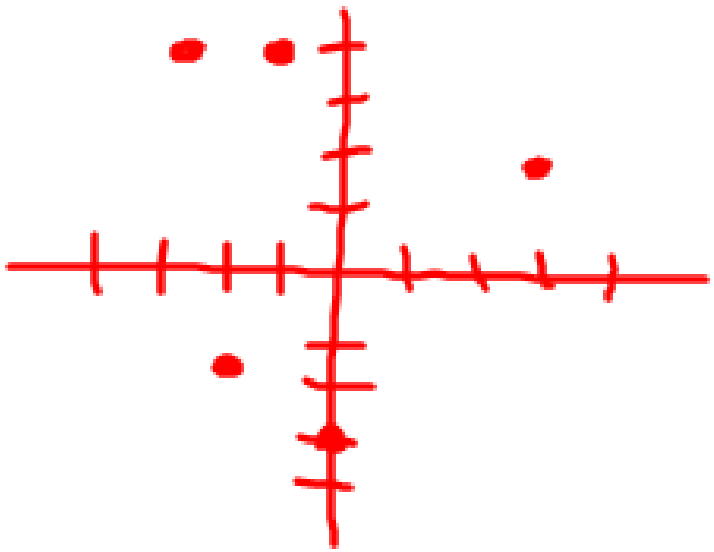
range: list of all y's

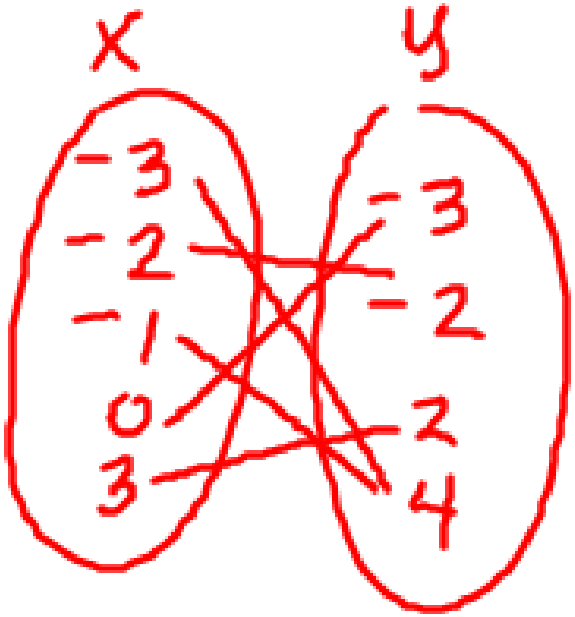
$R = \{-3, 2, 4\}$

Ex: Express the relation

{ (3, 2), (- 1, 4), (0, - 3), (- 3, 4), (- 2, - 2) }
as a table, graph, and mapping.

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





inverse: switch the coordinates in each pair

$(a, b) \rightarrow (b, a)$

Inverse of last example:

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

Homework:

4 - 3 WS