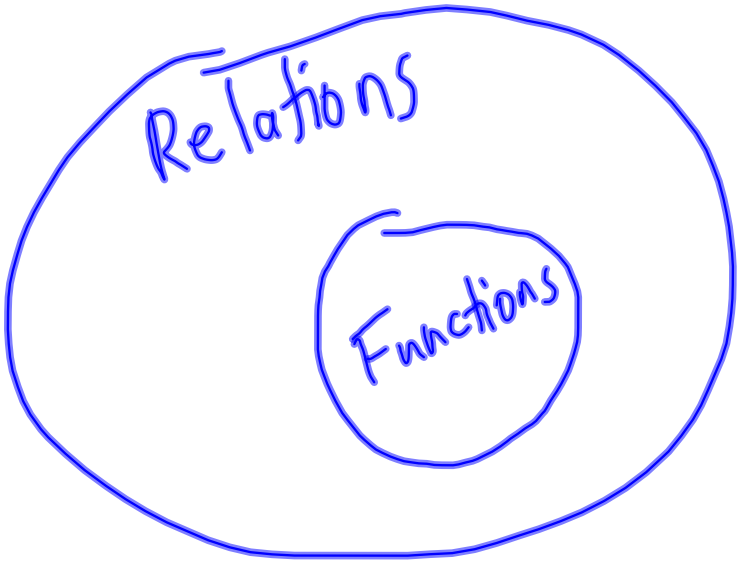
Goal:

- describe and identify a function vs a relation

- find the inverse of a function

A function is a specific type of relation.

A relation is any set of ordered pairs
The relation is what connects x- and y-coordinates.

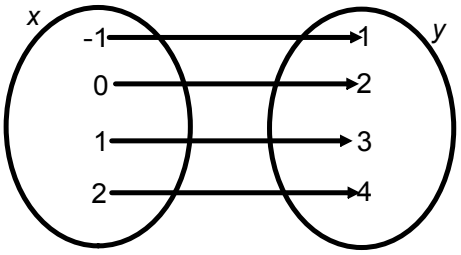


The following are examples of relations, some are functions and others are not.

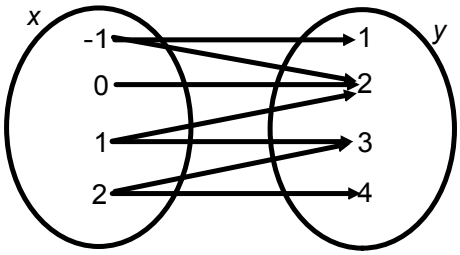
Using set notation:

{(0,0), (1,2), (2,4), (3,6)}	this relation is a function
{(0,0), (0,2), (0,4), (0,6)}	this relation is not a function
{(0,5), (1,5), (2,5), (3,5)}	this relation is a function

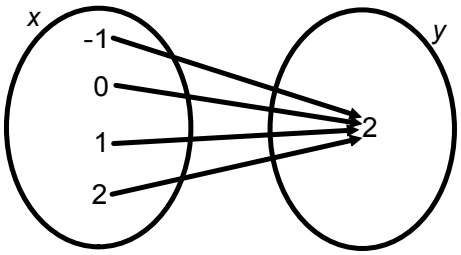
Using mapping:



this relation is a function

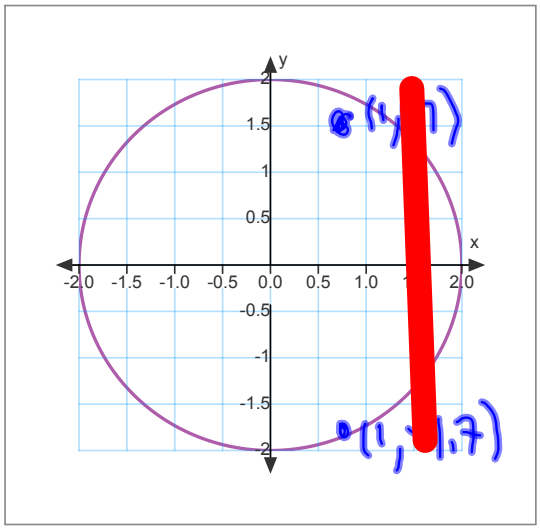


this relation is not a function



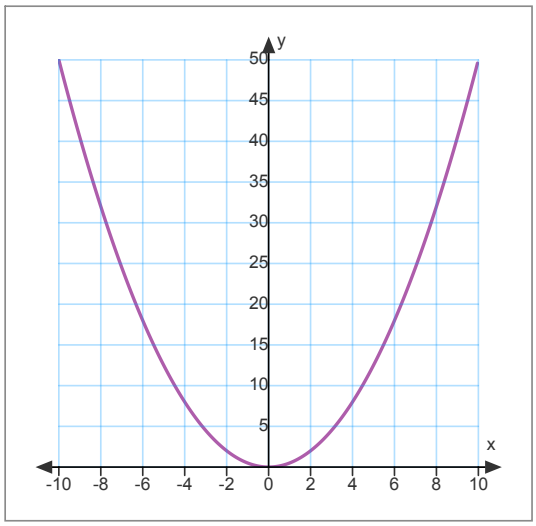
this is relation is a function

Using graphs:



$x^2 + y^2 = 4$

this is not a function

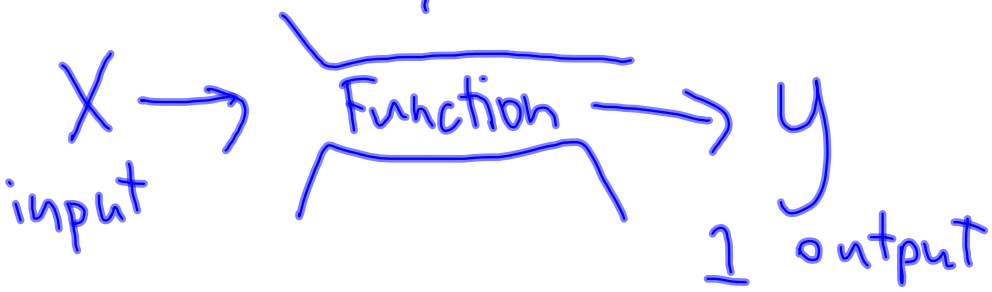


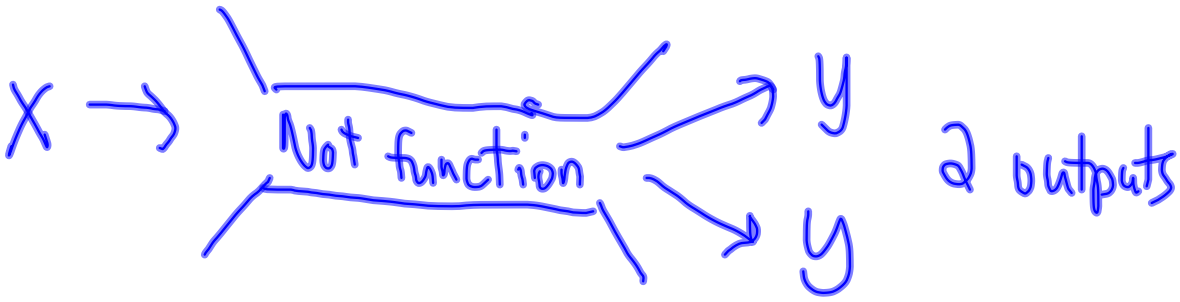
$y = 0.5x^2$

this is a function

A function is a relation where...

each x-coord. corresponds to at most one y-coord.





The simplest method for identifying a function is from a graph.

VERTICAL LINE TEST

Any vertical line will only touch a function once.

The inverse of the following functions are shown below:

Function: {(1,2) (2,4) (3,6)}
Inverse: {(2,1) (4,2) (6,3)}

Function: {(0,50) (3,53) (12,62)}
Inverse: {(50,0) (53,3) (62,12)}

Write the set of ordered pairs that represents the inverse of the function shown:

Function: {(-5,0) (0,2) (5,4)}
Inverse: {(0,-5) (2,0) (4,5)}

The inverse of a function is.... reverses the x- and y- coordinates.

Homework

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