Function
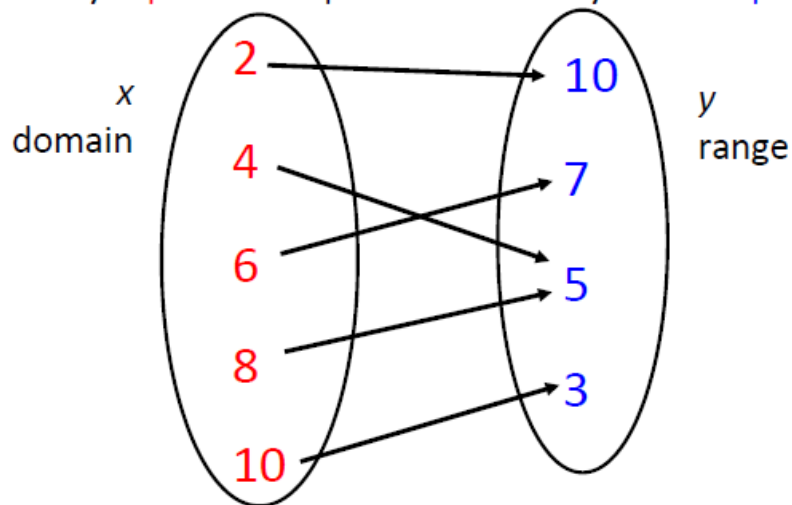## (Definition)

A relationship between two quantities in which every input corresponds to exactly one output

A relation is a function if and only if each element in the domain is paired with a unique element of the range.

Function Notation

f(x)

f(x) is read
"the value of *f* at *x*" or "*f* of *x*"

Example:

$f(x) = -3x + 5$, find $f(2)$.
$f(2) = -3(2) + 5$
$f(2) = -6 + 5$
$f(2) = -1$

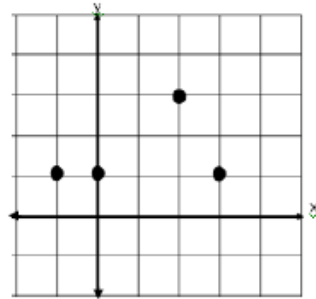Letters other than *f* can be used to name
functions, e.g., *g(x)* and *h(x)*

Functions
(Examples)

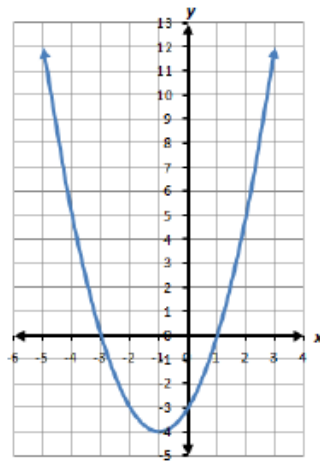| x	y
3	2
2	4
0	2
-1	2

Example 1

Example 2

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

Example 3

Example 4

Multiple Representations of Functions

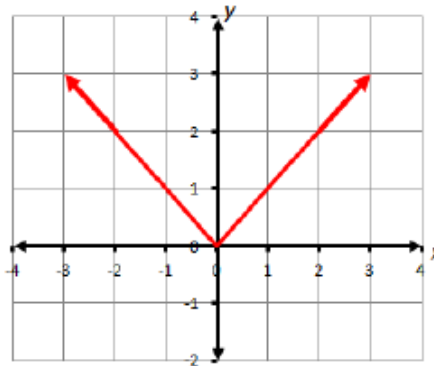### Equation

$$y = |x|$$

Table

x	y
-2	2
-1	1
0	0
1	1
2	2

Graph

Words

y equals the absolute value of *x*