

## 1-1 Introducing Functions

WHAT ARE THE BASIC PROPERTIES OF FUNCTIONS?

def A relation is a set of ordered pairs

ex  $\{ (2, 5), (3, 7), (6, 2) \}$

ex

<u>Distance (m)</u>	<u>Time (s)</u>
100	15
200	34
300	60

The domain is the set of all x-values  
← inputs

The range is the set of all y-values  
↓ outputs

HW 1A  
P. 6 #1-3  
P. 7 #1-4

Ex |  
set notation →

$$\{(1, 4), (2, 7), (3, 10), (4, 13)\}$$

Domain  $D: \{1, 2, 3, 4\}$   
Range  $R: \{4, 7, 10, 13\}$

def | A function is a mathematical relationship such that each element of the domain is associated with exactly one element of the range.

Every  $x$  has only one  $y$

\*  $x$  can repeat - only if it goes to the same  $y$

\*  $y$  can repeat all it wants!

Ex |  $\{(1, 2), (2, 2), (3, 2)\}$  is a function  $y$

$\{(1, 2), (1, 3), (1, 4)\}$  is not 