Thursday, May 25, 2017 2:09 PM

Ch. 5 Relations and Functions

① Domain and Range

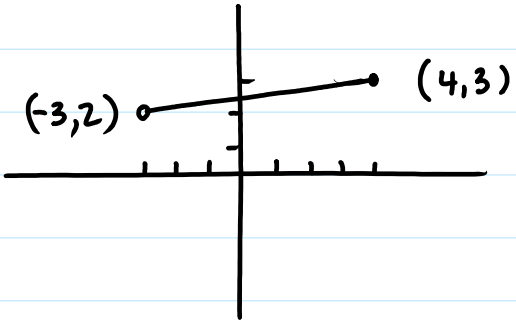
Domain ↓ first element of an ordered pair; "x" values on a graph

Range ↓ second element of an ordered pair; "y" values on a graph

ex: $\{(1,0), (3,-4), (2,8)\}$

Domain : $\{1, 2, 3\}$

Range : $\{-4, 0, 8\}$



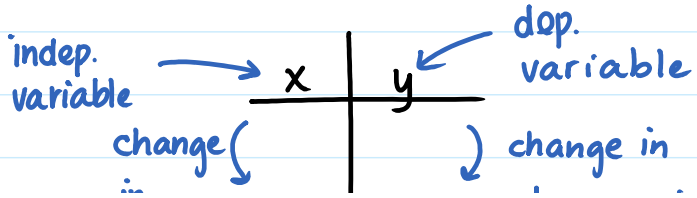
Domain : $-3 < x \leq 4$

Range : $2 < y \leq 3$

② Rate of Change (ch.6 → slope)

$$\text{rate of change} = \frac{\text{change in dependent variable}}{\text{change in independent variable}}$$

③ table of values



If change in "x" and the change in

variable

change in indep. variable → change in dep. variable

and the change in "y" is constant, we know our function is linear.

④ Relation vs Function

Relation: associates elements of one set with elements from another

Function: special type of relation. Each element in the domain is associated with exactly one element in the range

Check:
* no "x" values repeat
* If given a graph → Vertical Line Test

⑤ Function Notation

ex: a) $y = 4x - 1$ → in function notation

$f(x) = 4x - 1$

(same variable)

b) find $f(-1) = ?$

$f(-1) = 4(-1) - 1$

$= -4 - 1$

$f(-1) = -5$

c) find the value of "x" when $f(x) = 27$

$27 = 4x - 1$

$+1 \qquad +1$

$\frac{28}{4} = \frac{4x}{4}$

$\frac{}{4}$ $\frac{}{4}$

$7 = x$