6.2 Representations of Functions p.250

A **function rule** is an equation that describes the relationship between **inputs** (x) called the **independent variable** and **outputs** (y) called the **dependent variable**.

ex:

Function Rule

$y = 3x$

input	output
-2	-6

Write a function rule for "The output is fiveless than the input."

$y = x - 5$

"The output is the square of the input."

$y = x^2$

What is the value of $y = 2x + 5$ when $x = 3$?

$y = 2(3) + 5$

$= 6 + 5$

$\boxed{y = 11}$

Find the value of y when $x = 5$:

a) $y = 4x - 1$

$4(5) - 1$

$20 - 1$

$\boxed{19}$

b) $y = 10x$

$10(5)$

$\boxed{50}$

c) $y = 7 - 3x$

$7 - 3(5)$

$7 - 15$

$\boxed{-8}$

A function can be represented 5 ways:

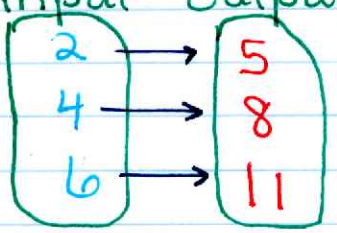
1.) **words** "The output is one-fourth of the input"

2) **equations** $y = \frac{1}{4}x$

3) **input/output tables** $y = x + 2$

input x	output y	ordered pair x, y
1	3	(1, 3)
2	4	(2, 4)
3	5	(3, 5)

4) **mapping diagrams**



5) **graphs**

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