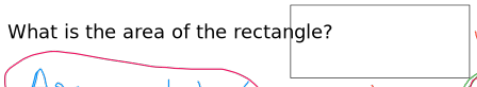
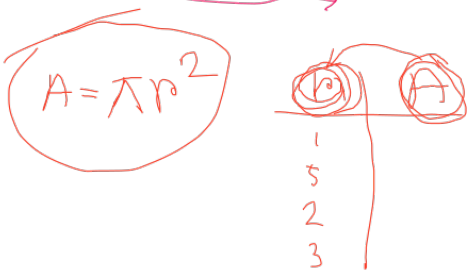
What is the area of the rectangle?





$y = 2 + x$

1. $y = 2 \pm \sqrt{x}$ → Relation
2. $y = 3x^2 + 4$ → Function

$2 \pm 1 \leftarrow 2+1,\ 2-1$

x	y
0	2, 2
1	3
-3	-1
5	7

①

x	y
0	2
1	3, 1
4	4, 0
9	5, -1

②

x	y
0	4
1	7
-2	16
4	52

$y = f(x)$

y is a function of x, that is, "x" is an independer variable while "y" is a dependent variable.

$y = f(x) = x^2 + 3$

'x'	'f(x)' or 'y'
0	3
-1	4
2	7
3	12
5	28

Here, "0" is called a pre-image of "3" and "3" is called the image of "0" under the function "f".

$f(0) = 3,\ f(2) = 7$

$f(-1) = 4$

Domain:
Set of all allowable values of independent variable (pre-images).

Range:
Set of all possible values of dependent variable (images).

Vertical Line Test:

1. $y = x + 2$
2. $y = \pm\sqrt{x}$