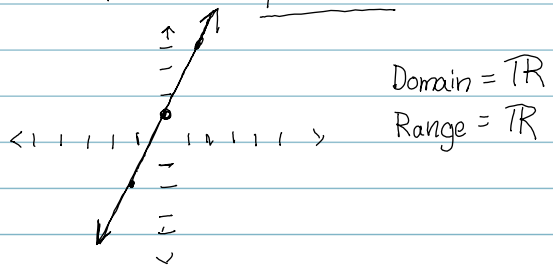


Lesson 94: Dependent ; Independent variables ; Functions

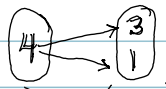
x/y	
-1	-2
0	1
1	4

x = independent (Domain) look at the line $y = 3x + 1$
y = dependent (Range)

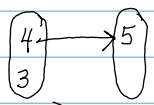


Function: Every element in the domain is mapped to one and only one element in the range.
 (That is, for every x , there is exactly one y .)

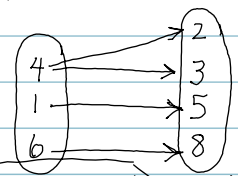
NOT functions:



(4, 3) (4, 1)



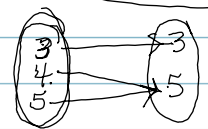
(4, 5) (3, 5)



(4, 2) (4, 3) (4, 5) (6, 8)

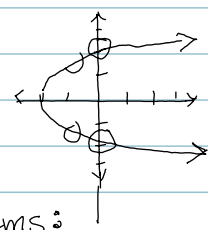
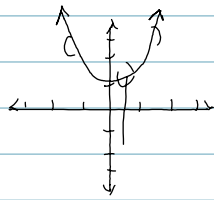
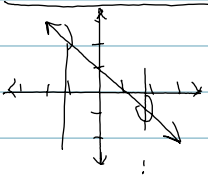
IS a function:

(4, 5) (3, 3) (5, 5)

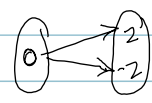


Yes, a function

Vertical line test:



Not a function
(0, 2) (0, -2)



Notation:

Line: $y = mx + b$
 $f(x) = mx + b$

Practice Problems:

- a) (5, 1) (4, 0) (-3, -2) (-4, 2) Function
- b) (1, 1) (2, -1) (-5, 1) (3, 1) Function
- c) (6, -1) (-1, -1) (6, -2) (4, 2) Function
- d) ~~(3, 2)~~ (0, -2) ~~(3, 0)~~ (-2, -2) Not

e) If ~~$h(x) = 7x - 2$~~ and $p(x) = x^2 - 5x$, find $p(-5)$. $p(-5) = (-5)^2 - 5(-5) = 50$