

BE-1A TUESDAY 1-22-08

① Is this a linear equation? Why or why not?

$$5x + 2y - 3x - y + 4 = 4 + 8$$

② Try to put the above equation into the "Standard Form of a Linear Equation"

③ Solve for y

$$2x + y = 8$$

④ Graph $y = -2x + 8$

- Return graded homework.
- Return Quiz 2 (keep - ticket for redo)
- + Study Guide for Exam 1

BE

$$\underline{\underline{5x}} + 2y - \underline{\underline{3x}} - y + 4 = 4 + 8$$

$$2x + y + 4 = 12$$

- 4 - 4

$2x + y = 8$
$Ax + By = C$

STANDARD FORM

For y : $2x + y = 8$

- 2x - 2x

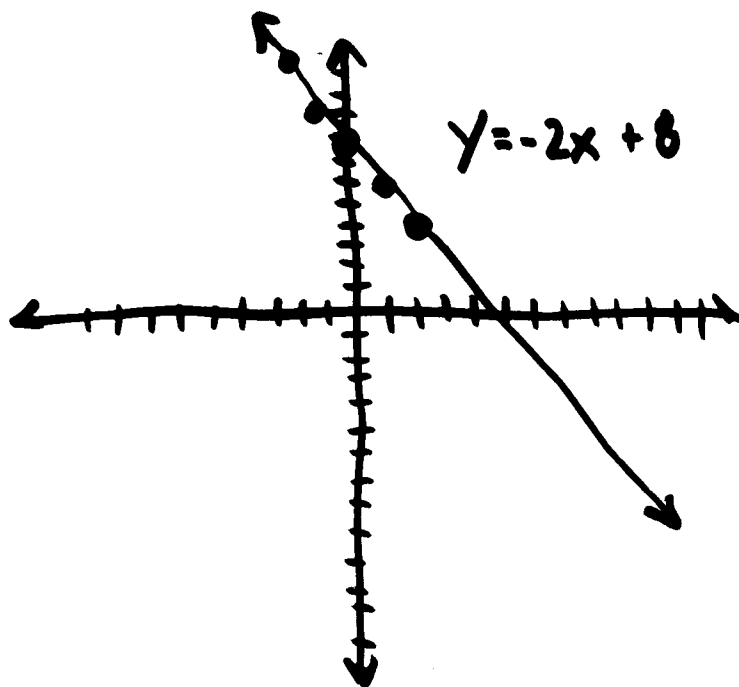
$$y = 8 - 2x \text{ or}$$

$y = -2x + 8$

 better

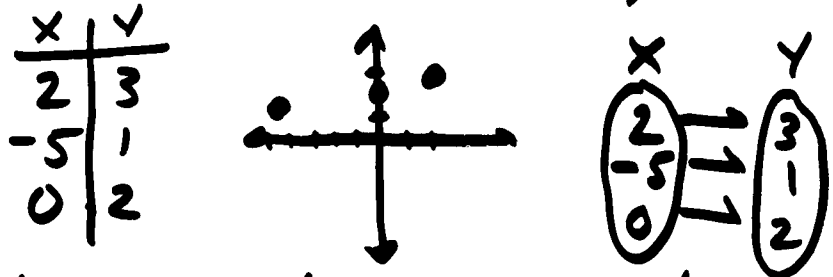
Graph: $y = -2x + 8$ domain is All Reals

X	$-2x + 8 = y$
-2	$-2(-2) + 8 = 12$
-1	$-2(-1) + 8 = 10$
0	$-2(0) + 8 = 8$
1	$-2(1) + 8 = 6$
2	$-2(2) + 8 = 4$



RECALL:

RELATION A SET of ordered pairs.
 EX) $\{(2, 3), (-5, 1), (0, 2)\}$



OR A RELATION CAN BE EXPRESSED AS
 AN EQUATION WITH TWO VARIABLES

EX) $y = 2x + 3$

FUNCTION A RELATION WHERE EACH x
 CAN ONLY GOT WITH ONE y

EX)

x	y
2	3
-5	1
0	2

RELATION
 AND
 A function

x	y
2	3
-5	1
2	4

RELATION BUT
NOT A
 function

💡 "x drives"

It is OK for different x values to go with the same y

EX)

x	y
1	5
2	5
3	5
4	5

This IS A
Function

As long as EACH x only goes to ONE y value, it is A function.

Which ones are functions?

(A)

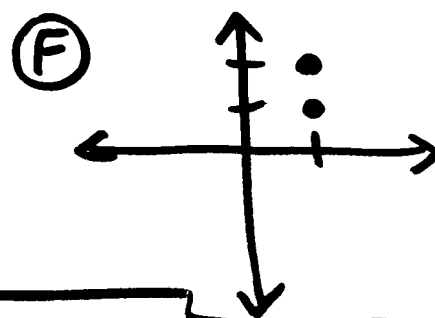
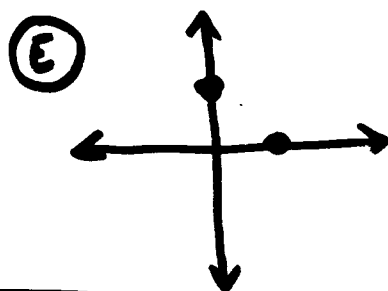
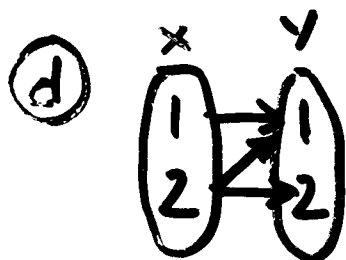
x	y
1	1
2	2
3	3

(B)

x	y
1	4
2	4
3	4

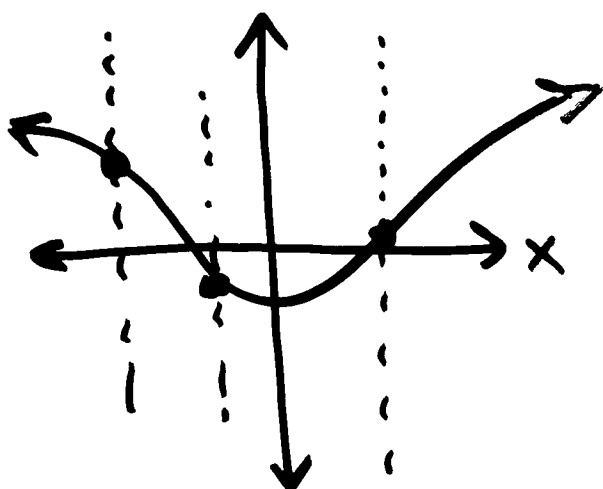
(C)

x	y
-1	2
1	3
1	4



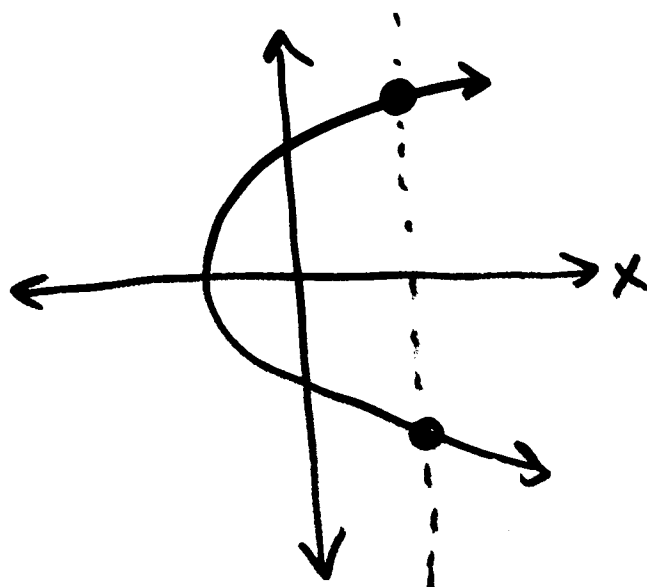
(A), (B), (E) ARE functions

If you can express a relation as a graph, it is easy to see if it is a function by using the
 ↕ Vertical Line Test.



PICK ANY
 x , how
 many y
 values does
 it cross?

ONLY 1 crossing point
 "
 Yes, FUNCTION



PICK x ,
MORE THAN
ONE crossing
 "

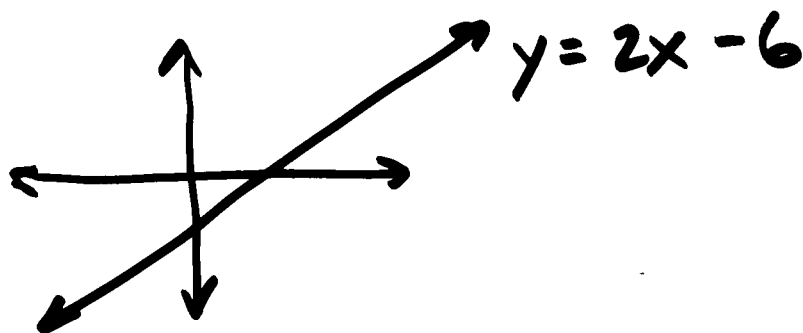
NOT A FUNCTION

If you want to see if an equation is a function, graph the equation and use the VLT.

EX 2
PG 227

Is $2x - y = 6$ a function

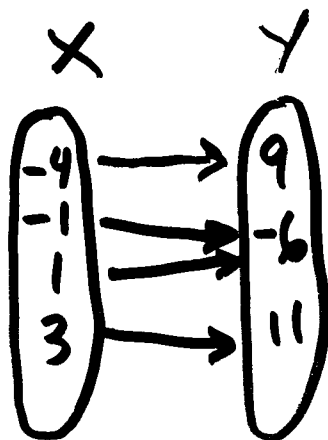
- solve for y
- make a T-table
- graph
- use VLT



EX 1
PG 226

Function, YES or NO, EXPLAIN:

(A)

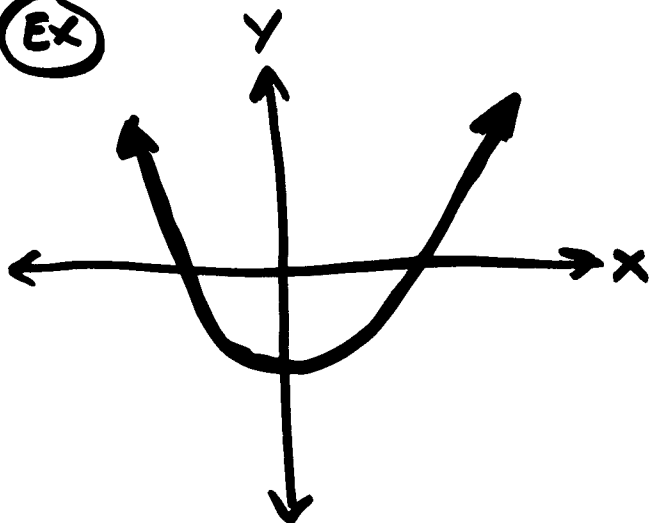


(B)

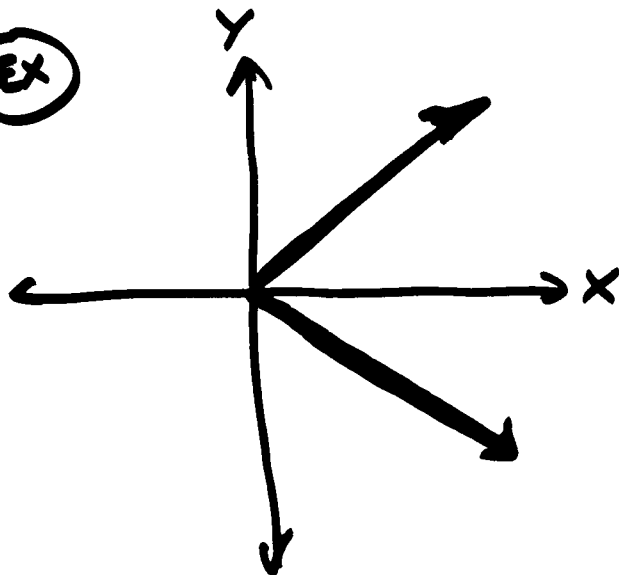
X	Y
-3	6
2	5
3	1
2	4

c) $\{(-2, 4), (1, 5), (3, 6), (5, 8), (7, 10)\}$

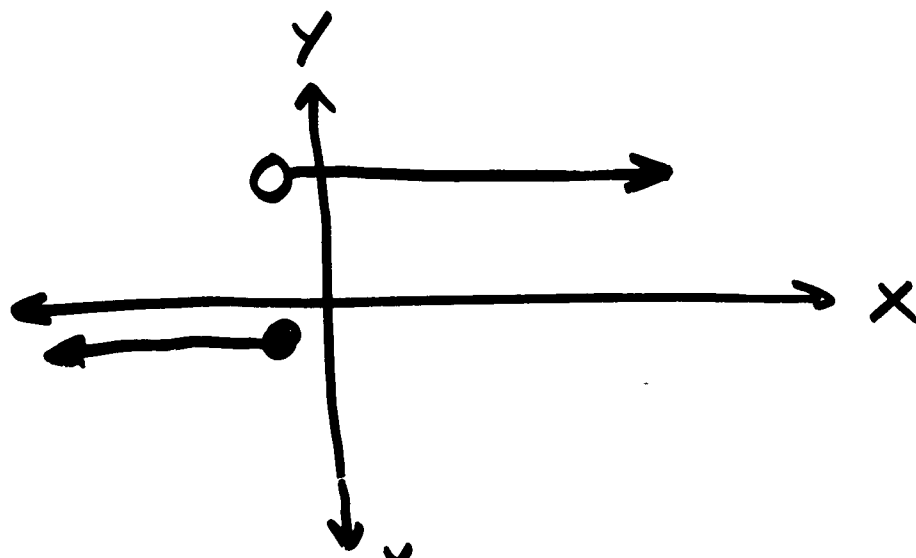
(EX)



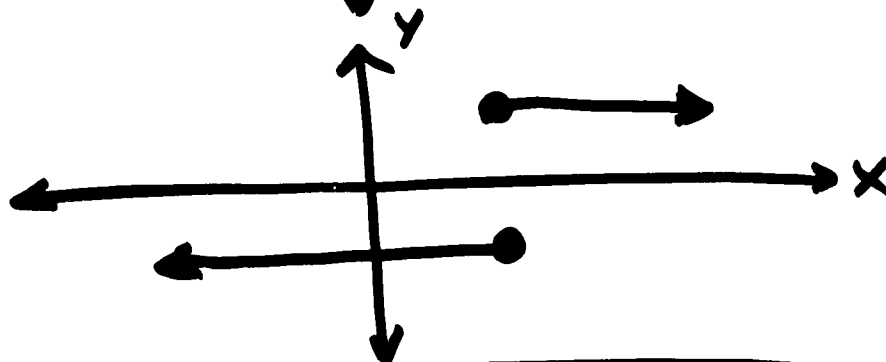
(EX)



(EX)



(EX)



HW: READ - Ch 4-6 "Functions"

Pg. 229 # 4 to 9