4 - 6
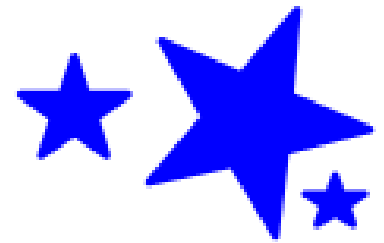# Functions

function: each x is paired

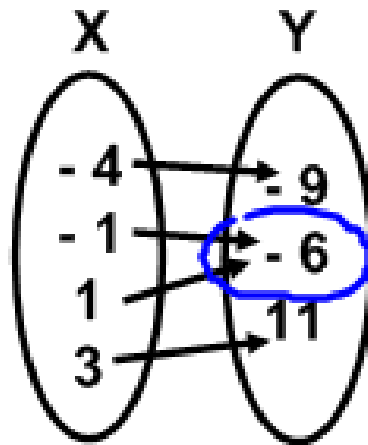with only <u>one</u> y
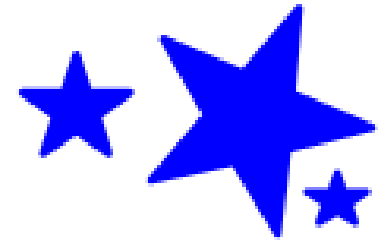
(no repeat x's)

Ex: { (-1,4), (2,5), (7,-1) }

(0,2) (0,2) (5,3)

Ex:
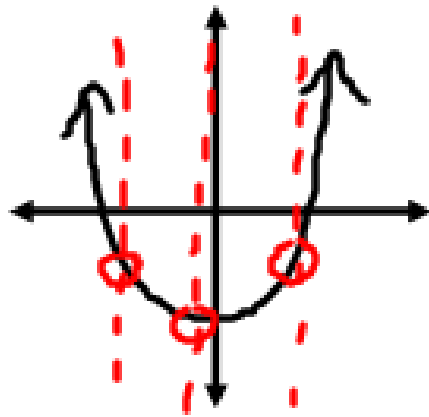
X   Y

- 4 → - 9
- 1 → - 6
1 → - 6
3 → - 11

yes

Ex:

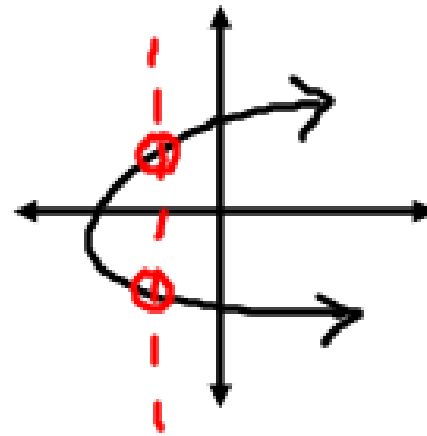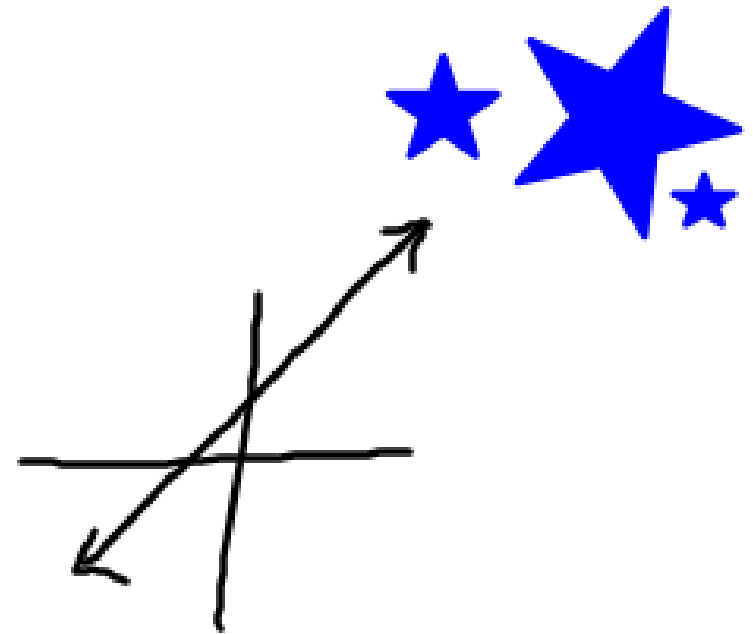| X	Y
-1	5
2	6
2	0
3	1

no

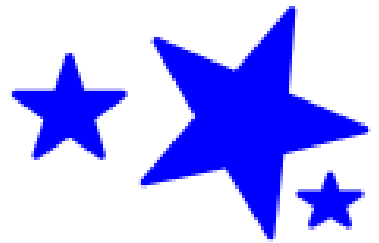# "vertical line test"
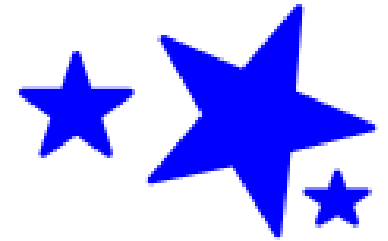
yes

no

function notation:

$$y = 3x + 2$$

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

" f of x "

Ex: If f(x) = 2x + 5, find each value. ★ ★ ★

a.) f(- 2) $= 2(-2)+5$

$$f(-2) = 1$$

b.) f(1) + 4

$f(1)+4 = 2(1)+5+4$

$= 11$

c.) f(x+3)

$2(x+3) +5$

$2x +6 +5$

$2x + 11$

Ex: If $h(z) = z^2 + 3z - 4$, find each value.

a.) h(- 4)

$(-4)^2 + 3(-4) - 4$

$16 - 12 - 4$

0

b.) h(5a)

$(5a)^2 + 3(5a) - 4$

$25a^2 + 15a - 4$

c.) 2[h(g)]

$2(g^2 + 3g - 4)$

$2g^2 + 6g - 8$

Homework:

4 - 6 WS (all)