

## HW: Functions Worksheet

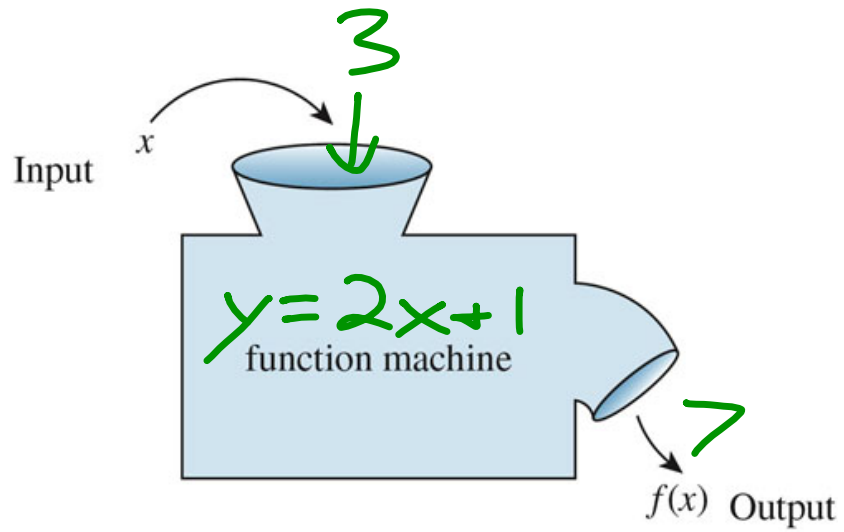
### Warm up:

What is a function?

$$y = 2x$$

$$f(x) = 4x - 9$$

$$y = -x + 3$$



Each input is paired with one and only one output.

{(4, 1), (5, -7), (4, 8), (3, -2)}

not a function

$\{(9, 5), (6, 2), (3, 5), (-4, -1)\}$

function

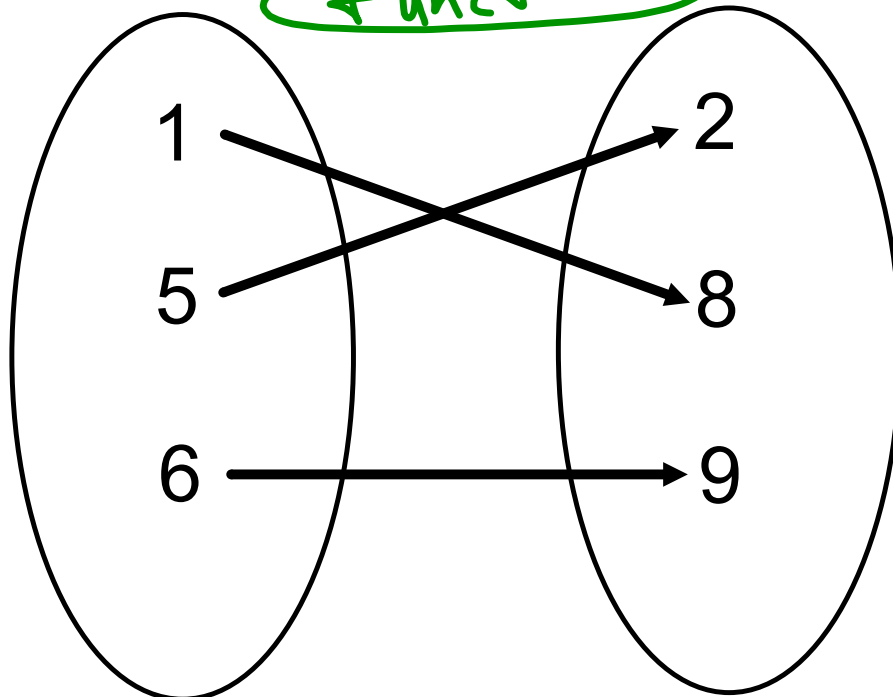
# Maps

$(1, 8)$   $(5, 2)$   $(6, 9)$

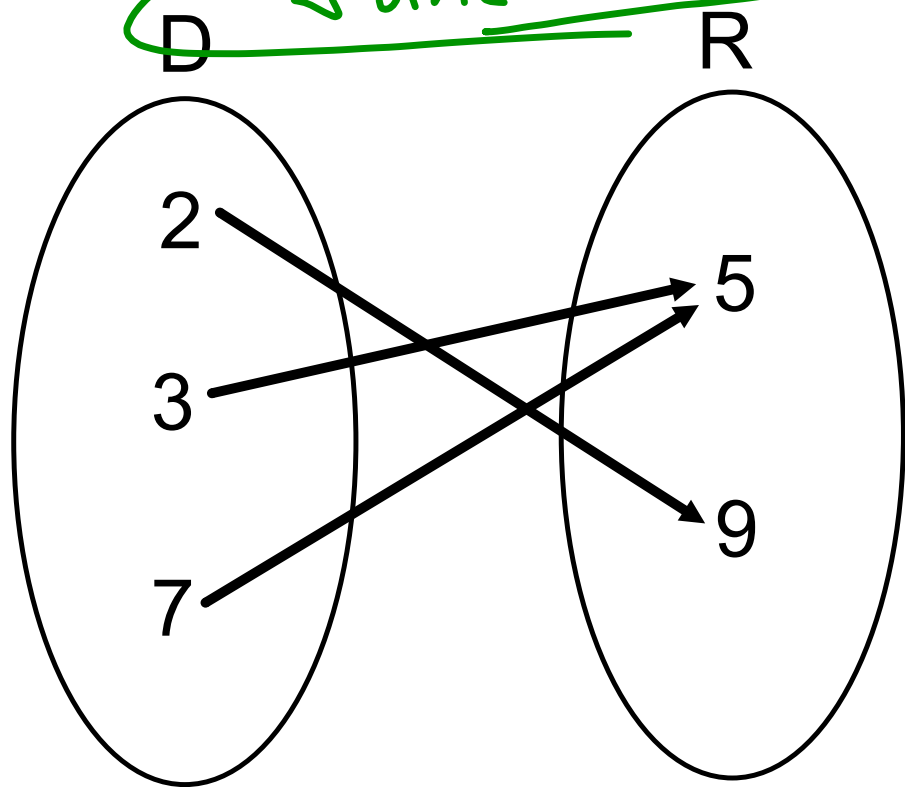
D

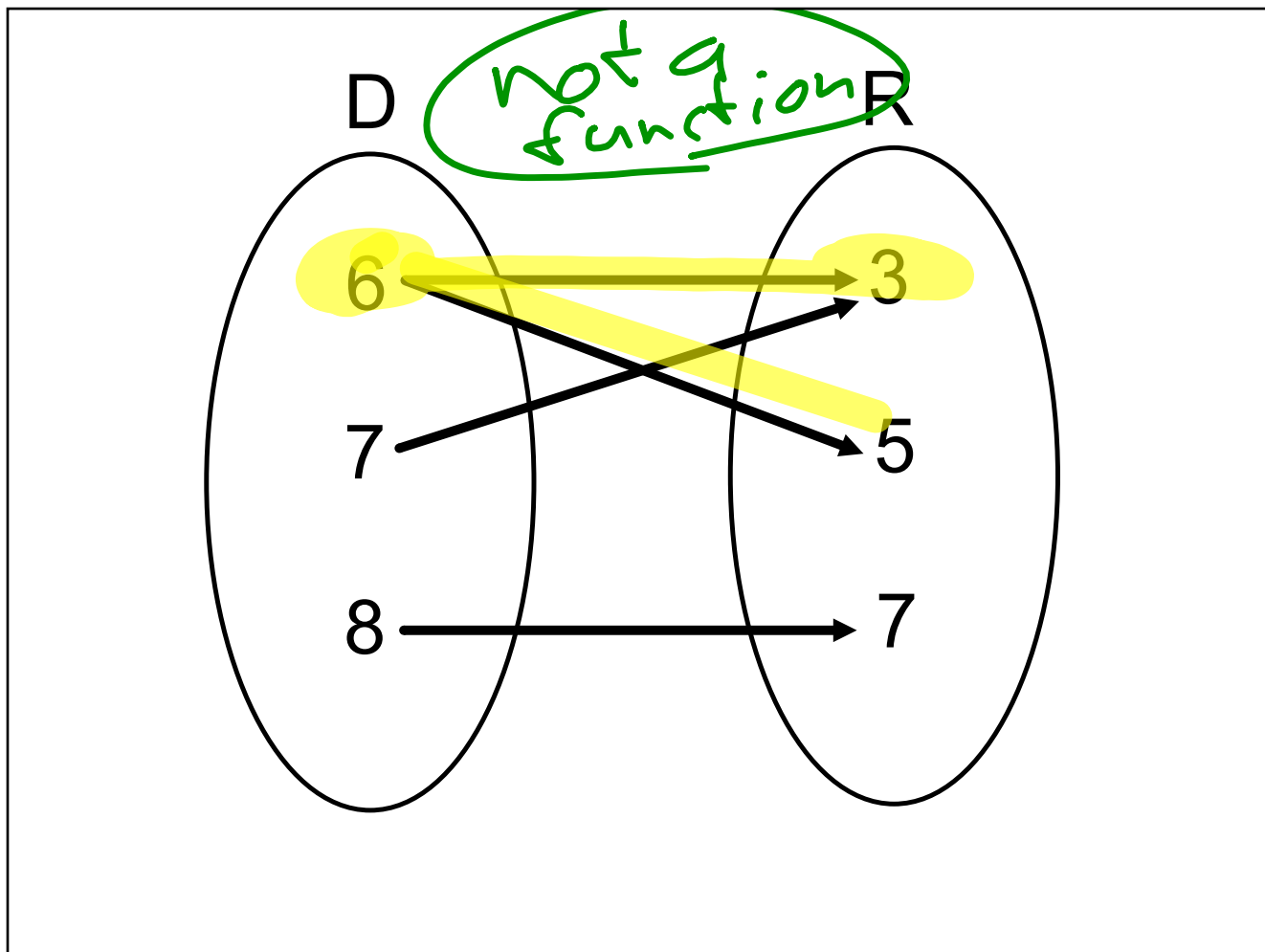
function

R



function

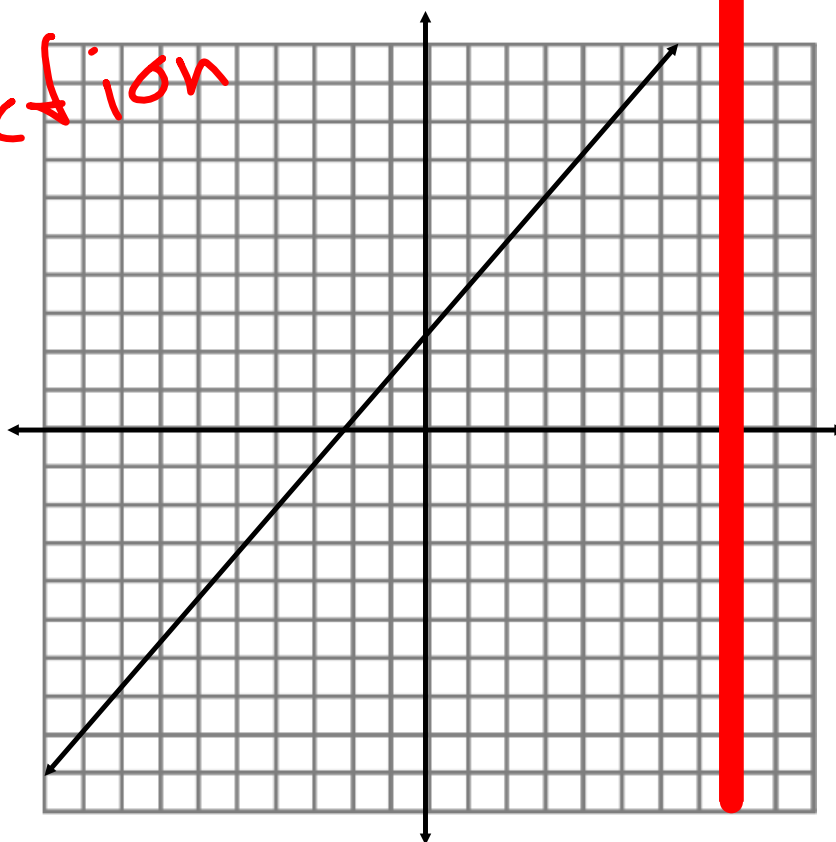


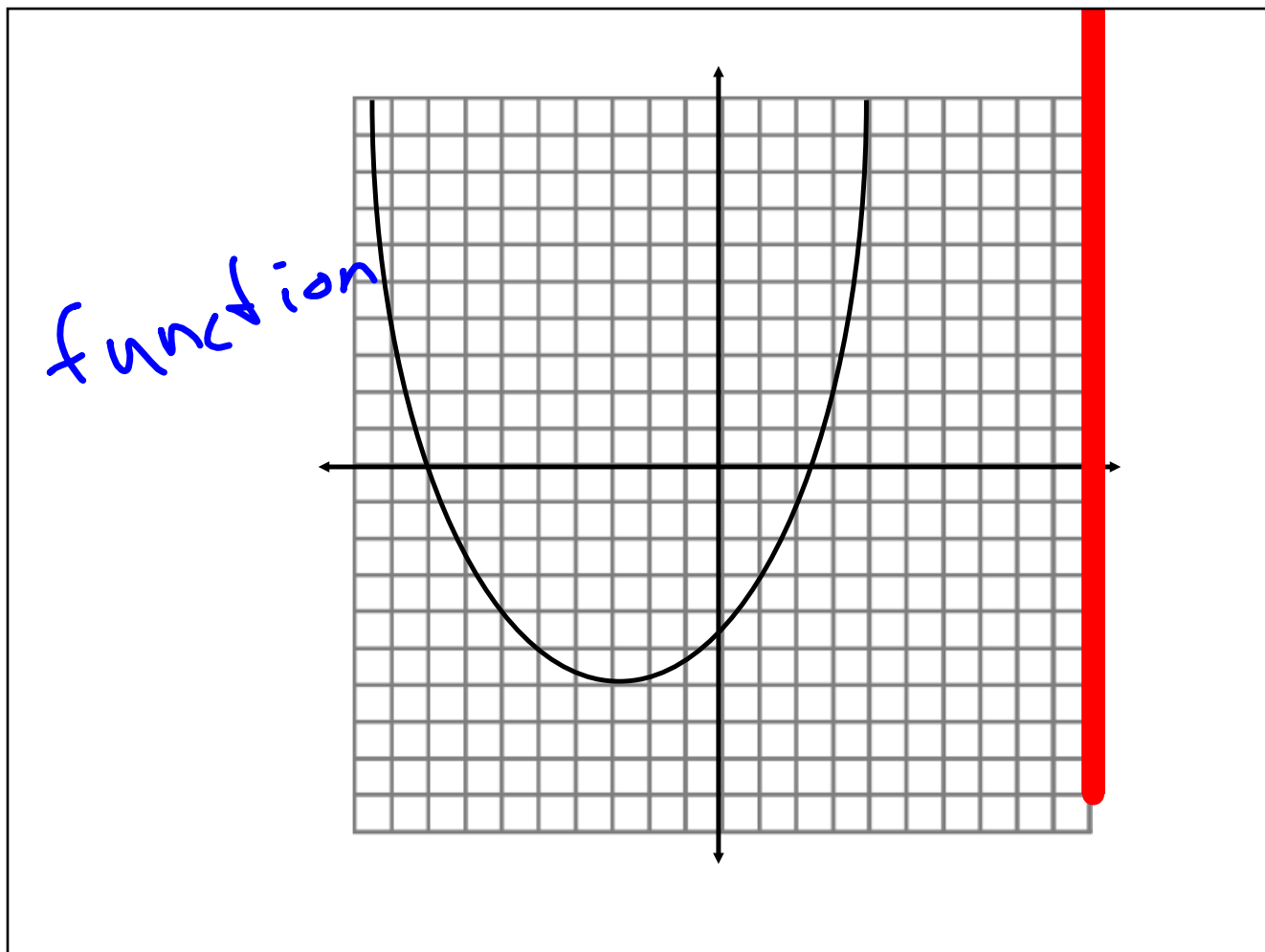


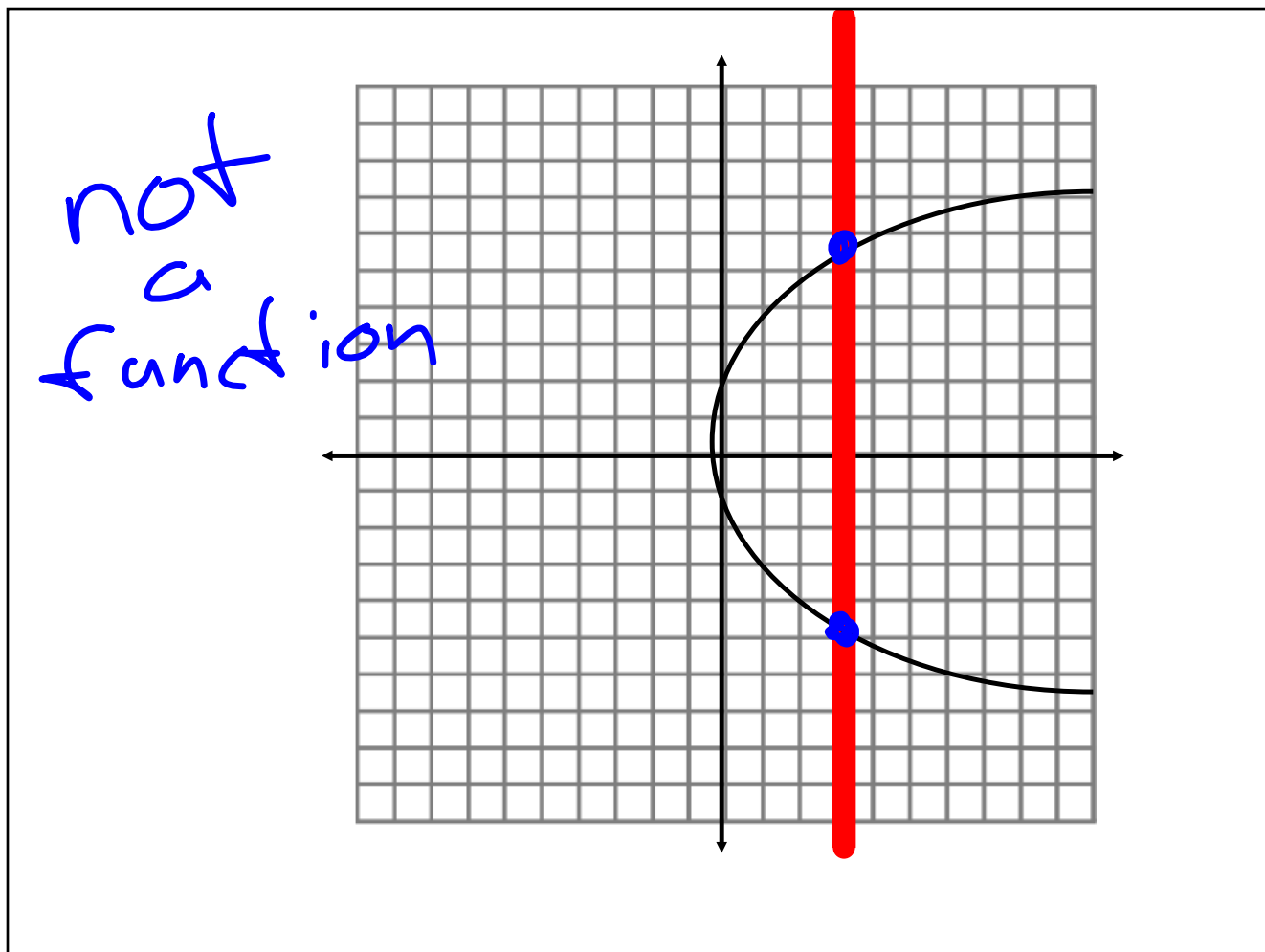


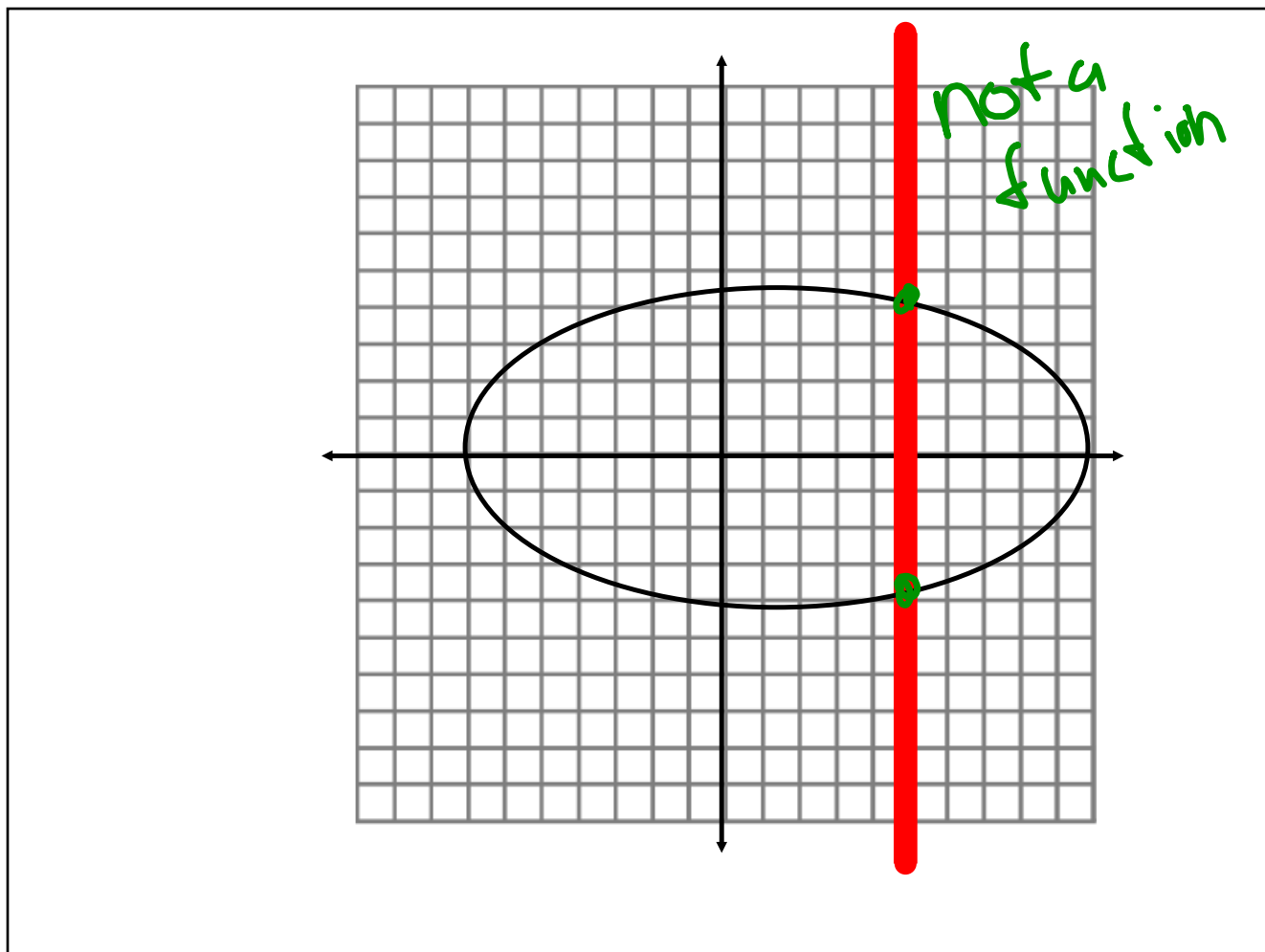
# Vertical Line Test

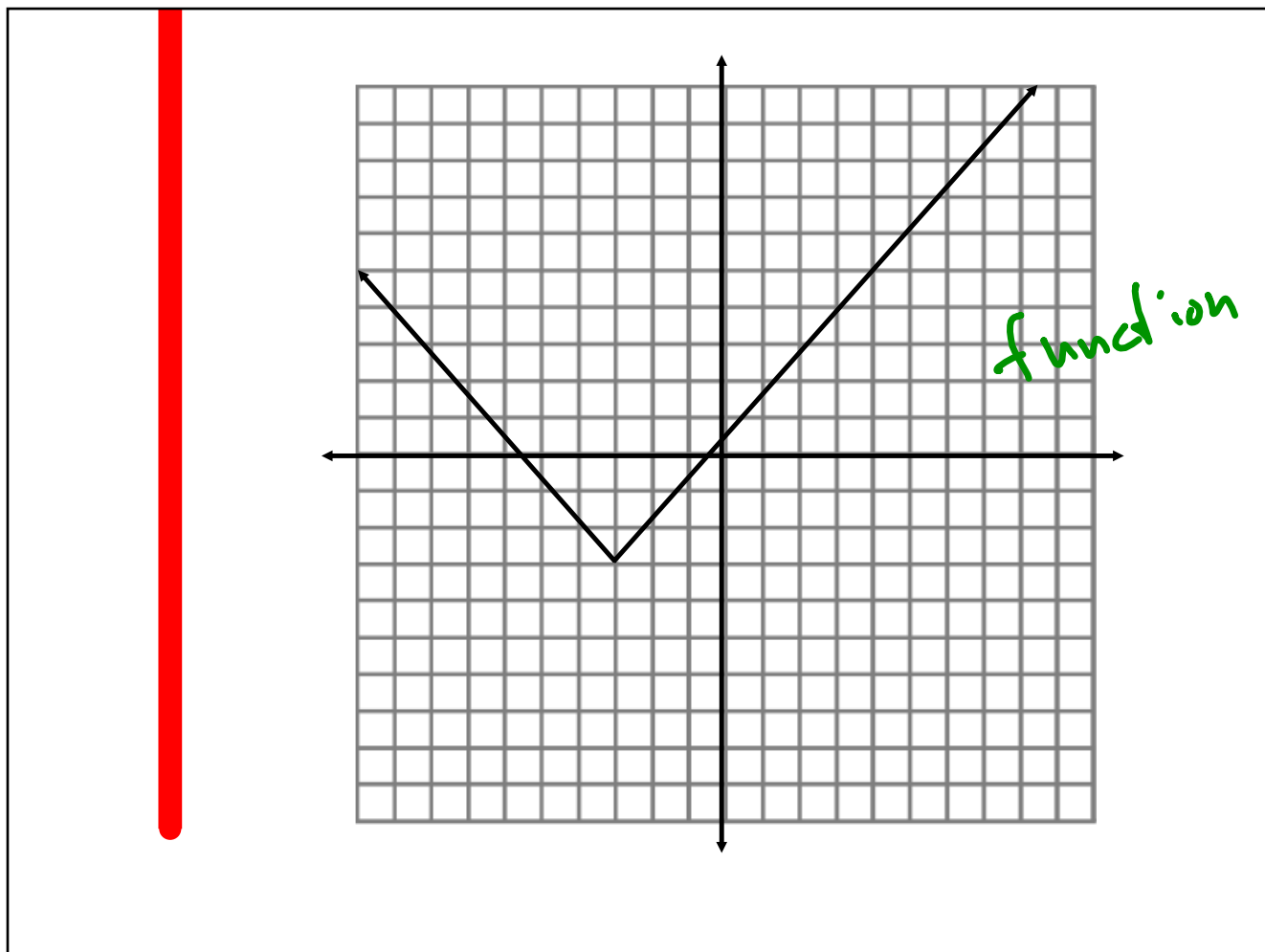
*function*







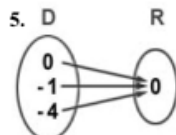
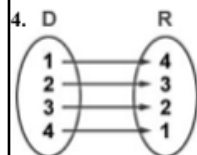




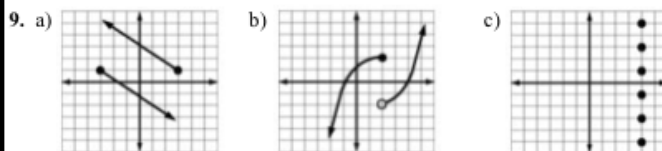
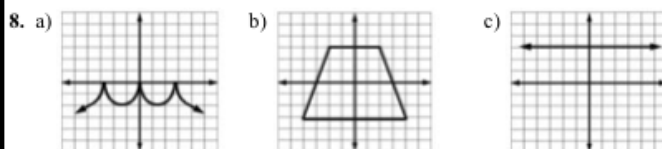
Determine whether or not each of the following relations represents a function, then draw a mapping diagram for each relation.

1.  $\{(-6, -5), (-5, 5), (5, -6), (6, 6)\}$
2.  $\{(3, 6), (-5, 1), (-1, 1), (2, 9)\}$
3.  $\{(4, 2), (7, 3), (-1, 0), (4, 5)\}$

Determine whether or not each of the following relations represents a function.



Use the vertical line test to determine if each of the following relations is a function:



10. Which of the capital letters of the alphabet, when placed on a coordinate system, would represent functions? (Assuming the letters are written right-side-up.)

Determine whether or not each of the following relations represents a function, then draw a mapping diagram for each relation.

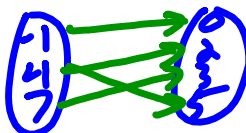
1.  $\{(-6, -5), (-5, 5), (5, -6), (6, 6)\}$

yes



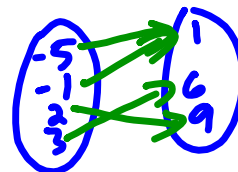
2.  $\{(3, 6), (-5, 1), (-1, 1), (2, 9)\}$

yes

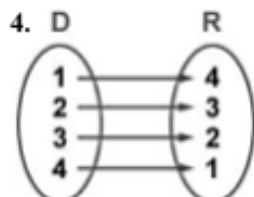


3.  $\{(4, 2), (7, 3), (-1, 0), (4, 5)\}$

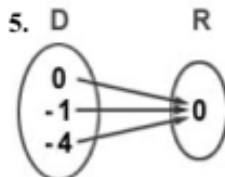
no



Determine whether or not each of the following relations represents a function.

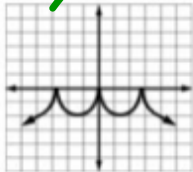
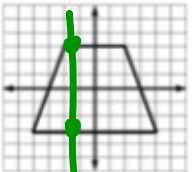
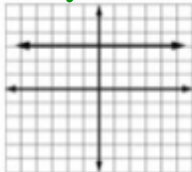


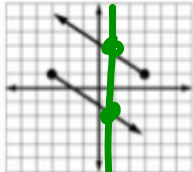
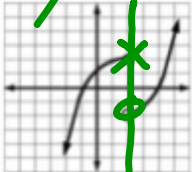
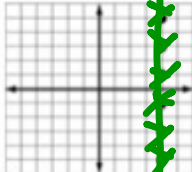
yes



yes

Use the vertical line test to determine if each of the following relations is a function:

8. a)  *yes*      b)  *no*      c)  *yes*

9. a)  *no*      b)  *yes*      c)  *no*



10. Which of the capital letters of the alphabet, when placed on a coordinate system, would represent functions? (Assuming the letters are written right-side-up.)





