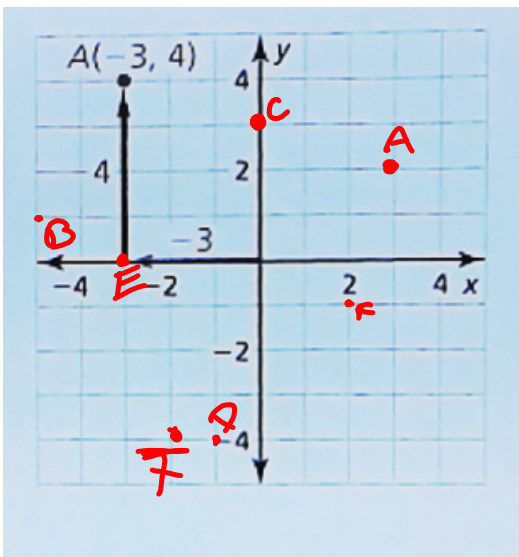


Warm-Up

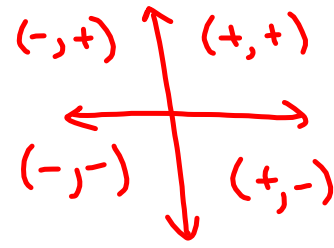
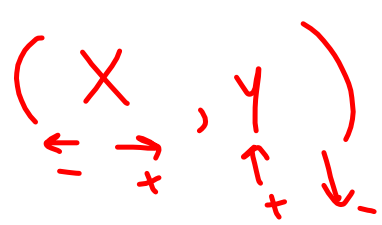


- 1. $A(3, 2)$
- 4. $D(-1, -4)$

- 2. $B(-5, 1)$
- 5. $E(-3, 0)$

- 3. $C(0, 3)$
- 6. $F(2, -1)$

7) $F(-2, -4)$



11) $24 - 8(-2)$
 $24 + 16$
 40

#5)

$$-7x - 11x > 26 - x + 9x.$$

$$-18x > 26 + 8x$$

$$\begin{array}{r} -18x > 26 + 8x \\ -8x & \quad -8x \end{array}$$

$$\begin{array}{r} -26x > 26 \\ \hline -26 & \quad -26 \end{array}$$

$$x < -1$$

3.1 Functions and Relations

Definitions

Domain: all x -values, input

Range: all y -values, output

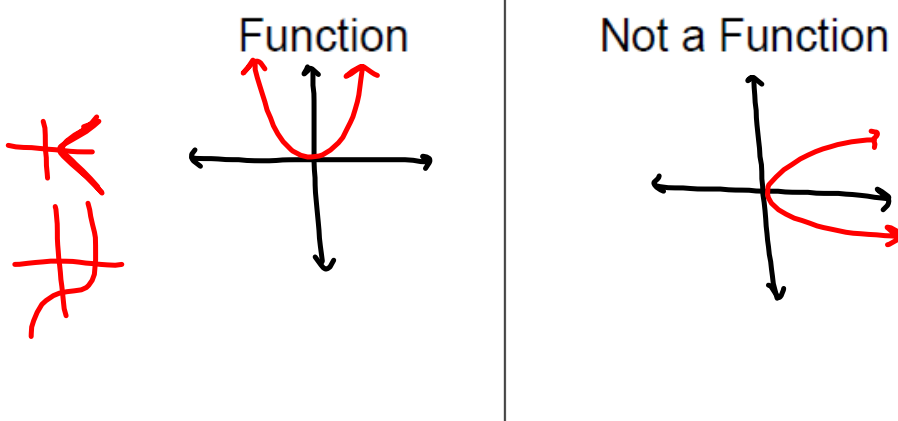
Relation: correspondence between x and y

Function: a relation where each x has
exactly one y

Use the **Vertical Line Test**; if a vertical line passes through the graph more than **once**, it is **NOT** a function.

A **graph** is always a **relation**

Give the Domain and Range for each.



If the x-values of the ordered pairs are repeated, it is **not a function**

If there is an **x-value** and a **y-value** in each ordered pair, it is **relation**

Give the Domain and Range for each.

Function	Not a Function
$\{(3, 4), (2, -6), (-3, 6)\}$ $D: \{-3, 2, 3\}$ $R: \{-6, 4\}$	$\{(3, 4), (4, 1), (3, -2)\}$ $D: \{3, 4\}$ $R: \{-2, 1, 4\}$

If the x -value in the table are **repeated**, it is not **a function**

If each x -value has a y -value, it is a **relation**

A table will always will be a **relation**

Give the Domain and Range for each.

Function

x	-4	0	2	5
y	3	-2	-2	5

$D: \{-4, 0, 2, 5\}$ $R: \{-2, 3, 5\}$

Not a Function

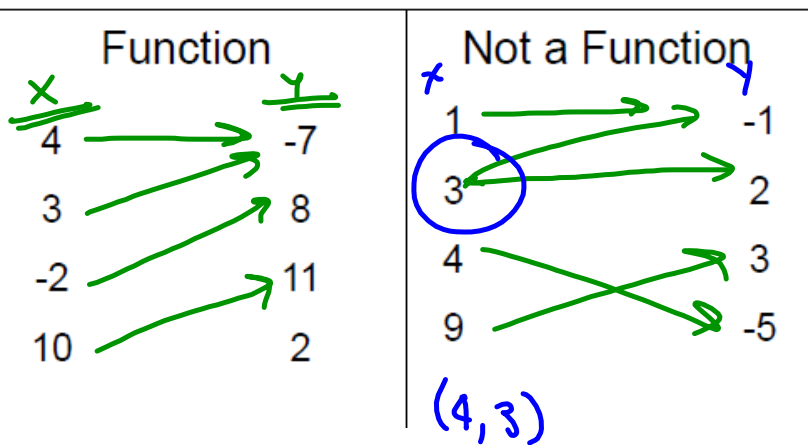
x	8	-4	8	0
y	3	1	2	-6

$D: \{-4, 0, 8\}$ $R: \{-6, 1, 2, 3\}$

If an **input** maps to **more than one** output, it is not a **function**.

If each input has an **output**, and vice versa, it is a **relation**.

Give the Domain and Range for each.



$(4, -7)$
 $(3, -7)$
 $(-2, 8)$
 $(10, 11)$

$(4, 3)$

$(1, -1)$
 $(3, -1)$
 $(3, 2)$
 $(4, 3)$
 $(9, -5)$