

Name: _____ Class: _____ Date: _____

Lesson #2: Functions: Rules, Tables, Graphs, & Mapping

Vocabulary Warm-up: define the following.

Function: _____

Linear: _____

Non-linear: _____

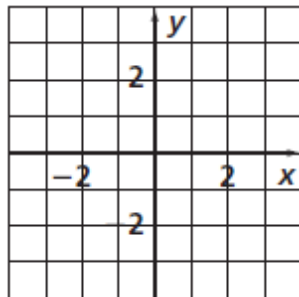
Domain: _____

Range: _____

Vertical-line test: if a vertical line on a graph passes through more than 1 point, it is not a function.

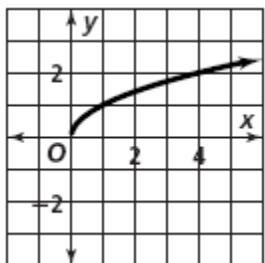
Example 1: Using the Vertical-Line Test: Determine whether the relation

$\{(0,-2), (1,-2), (-3, 1), (-2, 0), (-1,-1), (3, 2), (2,-3)\}$ is a function.

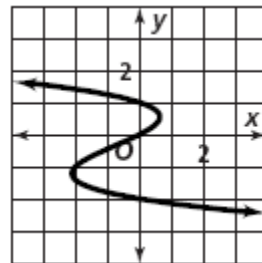


Try It

a.



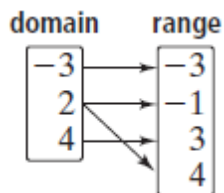
b.



Lesson #2: Functions: Rules, Tables, Graphs, & Mapping

Example 2: Using a Mapping Diagram:

Determine whether each relation is a function. $\{(4, 3), (2,-1), (-3,-3), (2, 4)\}$



Use a mapping diagram to determine whether each relation is a function.

- a. $\{(3, -2), (8, 1), (9, 2), (3, 3), (-4, 0)\}$ b. $\{(6.5, 0), (7, -1), (6, 2), (2, 6), (5, -1)\}$

Example 3: Making a Table from a Function Rule

Make a table for $-5x + 25 = y$ and evaluate the function to find the range for the domain values of $\{-2, 0, 2, 4\}$.

x		y	

Name: _____

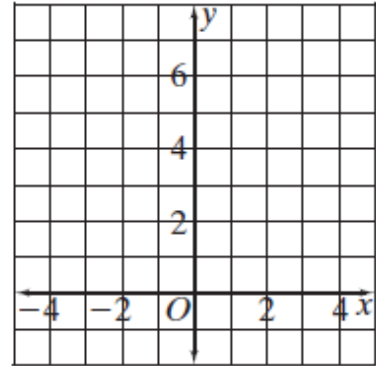
Class: _____ Date: _____

Lesson #2: Functions: Rules, Tables, Graphs, & Mapping

Example 4: Graphing Functions

Make a table of values and graph the function $y = |x| + 2$.

x	$y = x + 2$	(x, y)
-3	$y = \boxed{} + 2 = \boxed{}$	$(\boxed{}, \boxed{})$
-1	$y = \boxed{} + 2 = \boxed{}$	$(\boxed{}, \boxed{})$
0	$y = \boxed{} + 2 = \boxed{}$	$(\boxed{}, \boxed{})$
1	$y = \boxed{} + 2 = \boxed{}$	$(\boxed{}, \boxed{})$
3	$y = \boxed{} + 2 = \boxed{}$	$(\boxed{}, \boxed{})$



Example 5: Determining solutions

a) Is the ordered pair $(-2, -2)$ a solution to the function $y = 3x - 8$?

b) Is the ordered pair $(-3, 7)$ a solution to the function $y = -\frac{2}{3}x + 5$?

Lesson #2: Functions: Rules, Tables, Graphs, & Mapping

Work in your group:

1. Determine whether the relation $\{(0, 2), (1, -1), (-1, 4), (0, -3), (2, 1)\}$ is a function.

2. Evaluate the function $y = 8 - 3x$ to find the range for the domain values of $\left\{-3, 0, 1\frac{1}{4}, 2.3\right\}$.

3. Make a table of values and graph each function.

a. $y = |x| - 1$

b. $y = x^2 - 1$

x	y

x		y

