

Name: *Key*

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

RELATION

Example: Any set of ordered pairs.

Can be shown as: $\{(1,2), (2,3), (3,4)\}$ **DOMAIN**

The set of all x's in a relation

RANGE

The set of all y's in a relation

examples

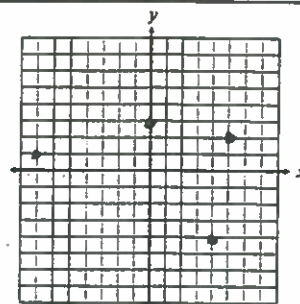
ORDERED PAIRS

TABLE

GRAPH

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

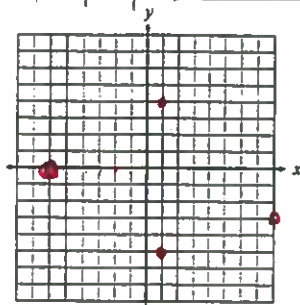
x	y
-7	1
0	3
4	-4
5	2

Domain: $\{-7, 0, 4, 5\}$ Range: $\{-4, 1, 2, 3\}$

2

 $\{(-6, 0), (1, 4), (8, -3), (1, -5)\}$

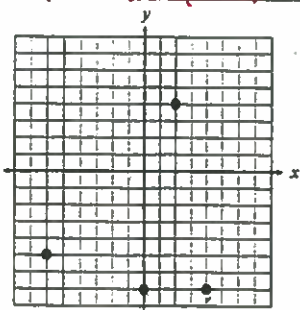
x	y
-6	0
1	-5
1	4
8	-3

Domain: $\{-6, 1, 8\}$ Range: $\{-5, -3, 0, 4\}$

3

For questions 3 and 4,
use the points plotted
on the graph. $\{(-6, 5), (0, -7), (2, 4), (4, -7)\}$

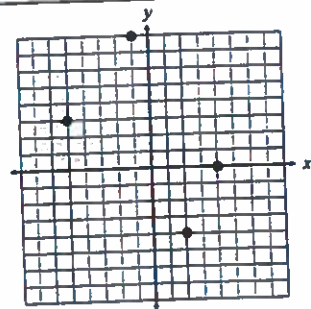
x	y
-6	-5
0	-7
2	4
4	-7

Domain: $\{-6, 0, 2, 4\}$ Range: $\{-7, -5, 4\}$

4

$\{(-5, 3), (-1, 8), (2, -4), (4, 0)\}$

x	y
-5	3
-1	8
2	-4
4	0



Domain: $\{-5, -1, 2, 4\}$

Range: $\{-4, 0, 3, 8\}$

FUNCTION

relation in which each element of the domain is paired with one element of the range

Directions: Determine whether the relation is a function.

examples

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

Function

6. $\{(1, 5), (-5, -3), (-8, -1), (1, -7)\}$

Not a Function

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

Function

8. $\{(-7, 4), (-4, 1), (-4, -9), (0, -6)\}$

Not a Function

9.

x	y
-2	4
-1	1
0	0
1	1
2	4

Function

10.

x	y
-7	0
-4	1
-1	2
5	3
8	4

Function

11.

x	y
-3	-2
-3	-1
-3	0
-3	5
-3	9

Not a Function

VERTICAL LINE TEST

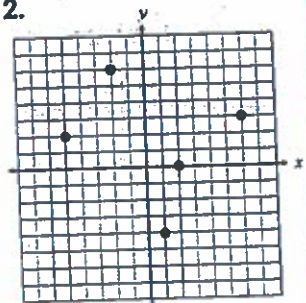
When given the graph of a relation, the vertical line test can be used to determine whether the relation is a function.

Vertical Line Test: any vertical line passes through the graph of a relation no more than once, then it is a function.

examples

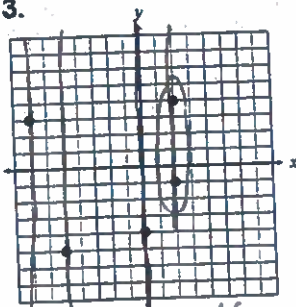
Directions: Use the vertical line test to determine whether the relation is a function.

12.



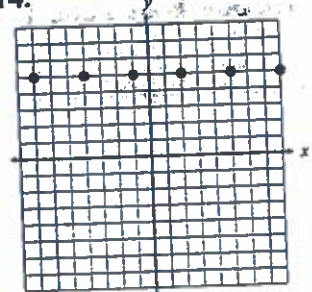
Function

13.



Not a Function

14.



Function