

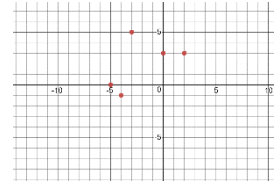
Relations and Functions

Definitions

Relation: Set of ordered pairs

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

x	y
2	5
3	7
-6	2
8	0



Domain: Set of all x-values (input) of a relation

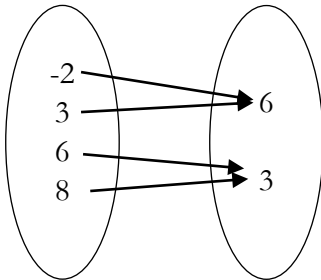
Range: Set of all y-values (output) of a relation

Function: Relation where each element of the domain is paired with exactly one element of the range.

Vertical Line Test

Directions: Identify the domain and range given each of the following relations.

1.



Domain

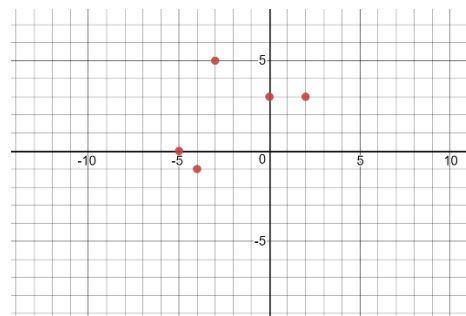
Range

x	y
2	3
-6	3
8	3
10	3
2	5

Domain

Range

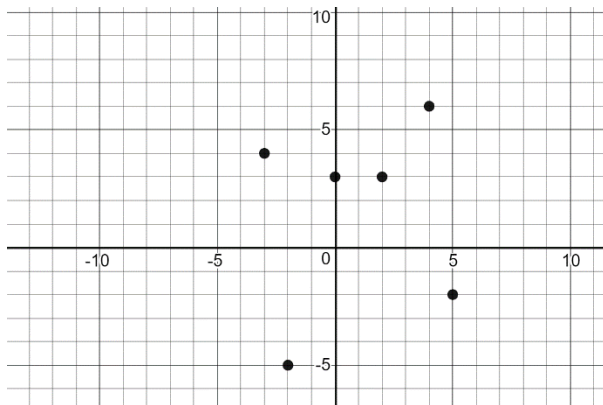
3.



Domain

Range

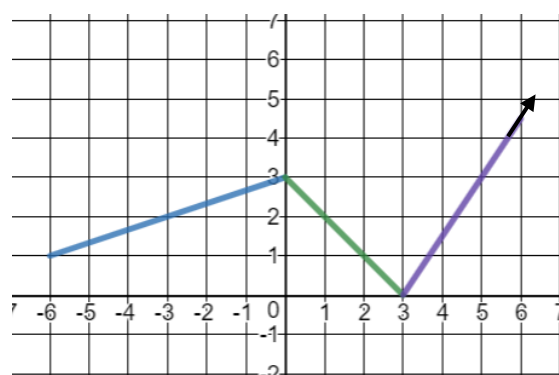
4.



Domain

Range

5.



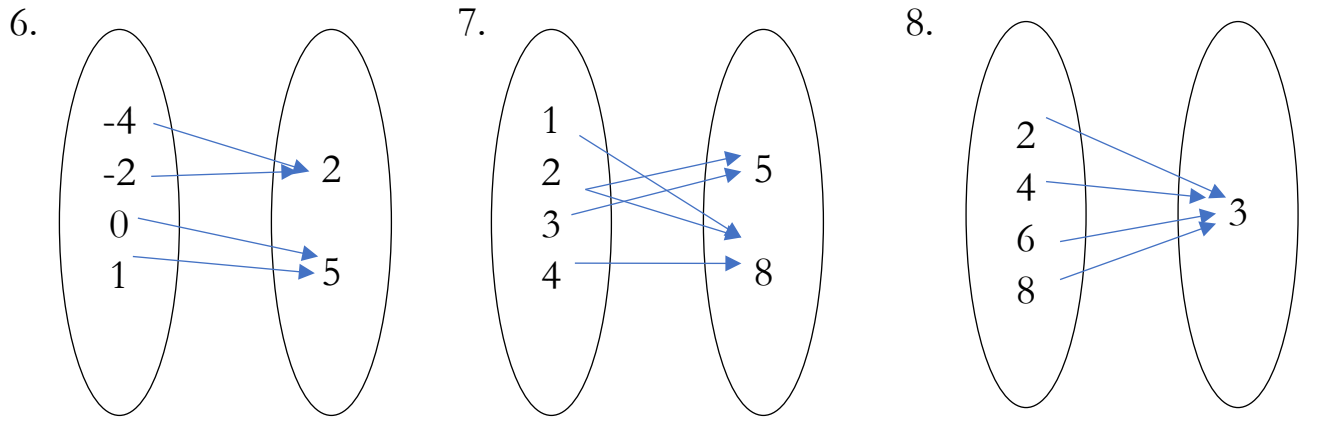
(write as an inequality)

Domain

Range

Relations and Functions

Directions: Determine if the relation is a function. If it is not a function, state why it does not meet the definition.



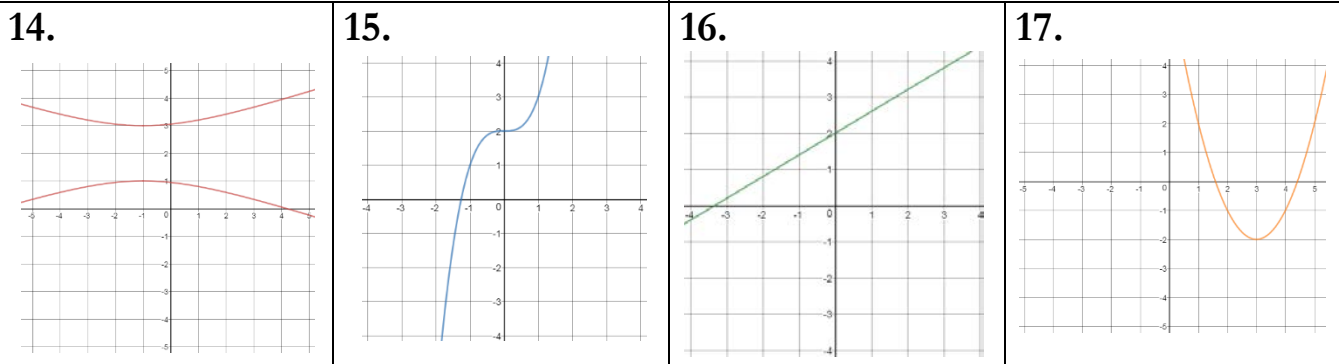
x	y
1	6
2	6
3	6
4	6

x	y
-2	2
0	3
2	4
4	5

x	y
-2	3
0	4
4	5
0	6

12. $\{(2, -3), (3, 5), (-3, 5), (-2, 6), (7, 0)\}$

13. $\{(-2, 8), (5, -7), (4, 9), (5, 0), (9, 6)\}$



18. What is the range of $f(x) = (x - 2)^2 + 3$ given that the domain is $x > 0$?

19. Given $f(x) = x^2 - 2x + 3$, find $f(-2)$.