

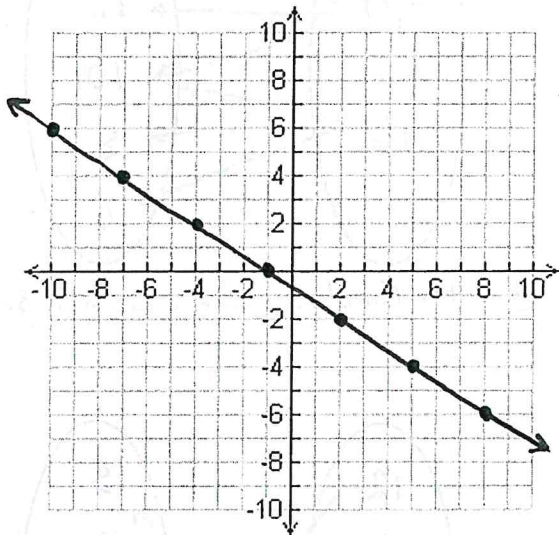
## Identifying Functions

Unit 3: Introduction to Functions

For each of the following functions:

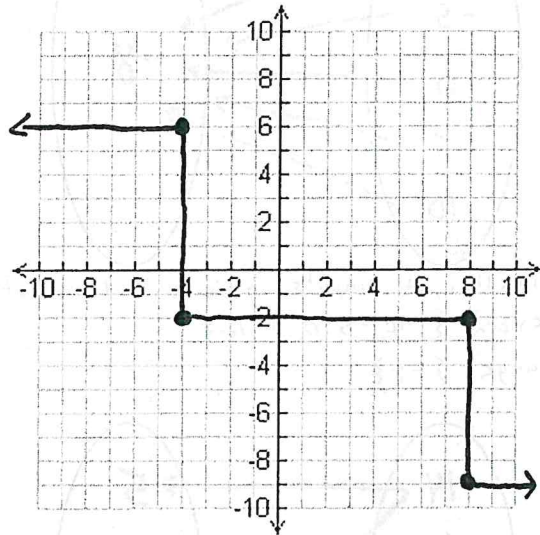
- A. Explain why it is, or why it is not a function based on the information provided.  
 B. If it is a function, then provide the Domain and Range for that function.

1.



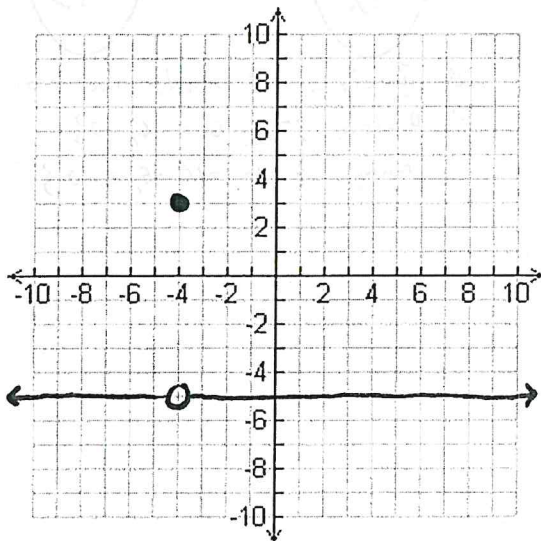
- (A) Function; Pass the Vertical Line Test  
 (B) Domain  $(-\infty, \infty)$   
 Range  $(-\infty, \infty)$

2.



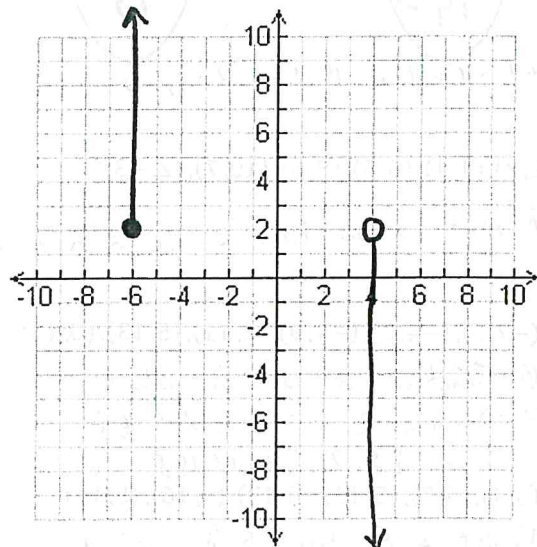
- (A) Not a Function; Fails Vertical Line Test

3.



- (A) Function; Pass Vertical Line Test  
 (B) Domain  $(-\infty, \infty)$   
 Range  $\{-5, 3\}$

4.



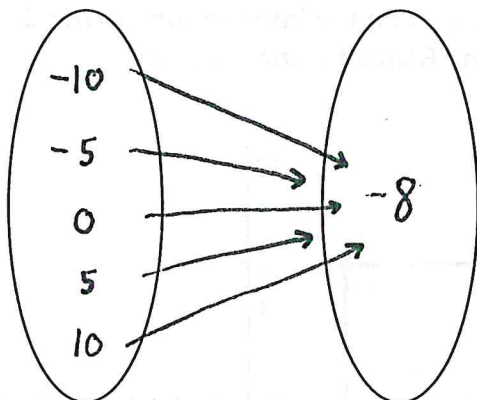
- (A) Not a Function; Fails Vertical Line Test

For each of the following functions:

A. Explain why it is, or why it is not a function based on the information provided.

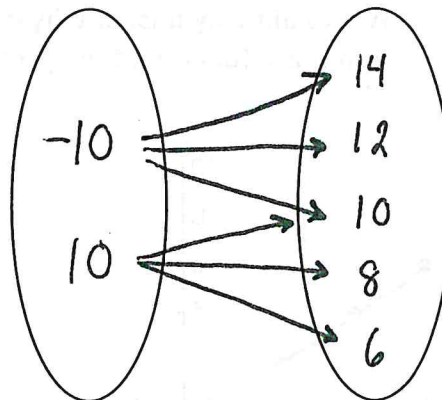
B. If it is a function, then provide the Domain and Range for that function.

5.



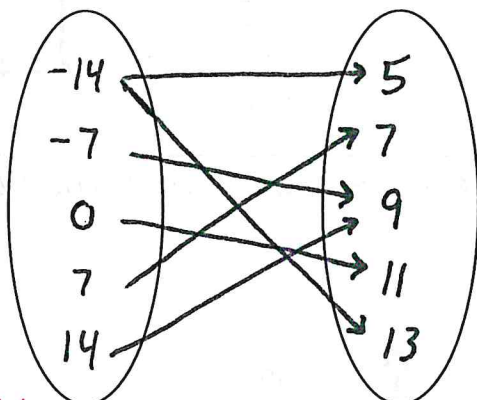
- (A) Function; All inputs have only 1 output  
 (B) Domain  $\{-10, -5, 0, 5, 10\}$   
 Range  $\{-8\}$

6.



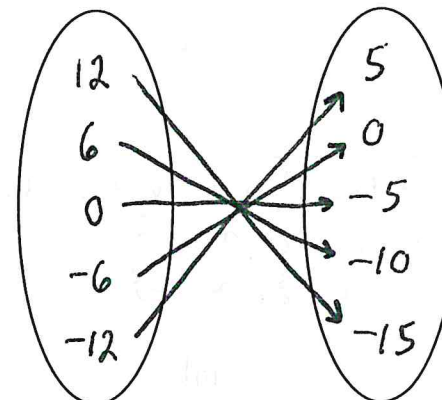
- (A) Not a Function; Each input has 3 outputs

7.



- (A) Not a function; 14 has 2 outputs

8.



- (A) Function; all inputs have 1 output.  
 (B) Domain  $\{12, -6, 0, 6, 12\}$   
 Range  $\{5, -10, -5, 0, 5\}$

9.  $(2, 3), (4, 4), (6, 5), (8, 6), (10, 7), (2, -3)$

- (A) Not a function since 2 has 2 outputs

10.  $(-7, 5), (-4, 7), (-1, 9), (2, 11), (5, 13), (8, 15)$

- (A) Function; all unique inputs  
 (B) Domain  $\{-7, -4, -1, 2, 5, 8\}$   
 Range  $\{5, 7, 9, 11, 13, 15\}$

11.  $(5, 4), (5, 7), (5, 10), (5, 13), (5, 16), (5, 19)$

- (A) Not a function; 5 has all different outputs

12.  $(-10, -10), (-8, -8), (-6, -6), (-4, -4), (-2, -2), (0, 0)$

- (A) Function; all unique inputs  
 (B) Domain  $\{-10, -8, -6, -4, -2, 0\}$   
 Range  $\{-10, -8, -6, -4, -2, 0\}$