Name Key Date Pd

Unit B: Functions Study Guide

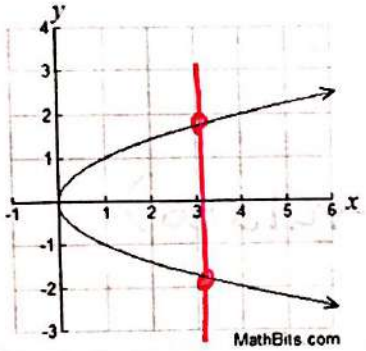
1. What is a function? (Give the definition) A function is a relation in which each x-value has only one corresponding y-value. Hence, x's do not repeat.

2. Which of the following is a function? Explain.
   A. {(2,3), (3,4), (4,4), (5,6)}
   B. {(2,3), (2,4), (3, 5), (5,6)}

   A. is a function because no x's repeat.
   B. is NOT a function because the x-value (2) repeats!

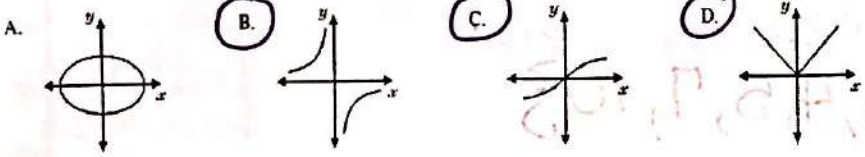
3. Give a value for "x" that would make the following relation a function:
   {(5,2), (6,4), (9,6), (x, 5)} any value that is not 5, 6, or 9 because x's cannot repeat in a function.

4. Is the following graph a function? Explain.



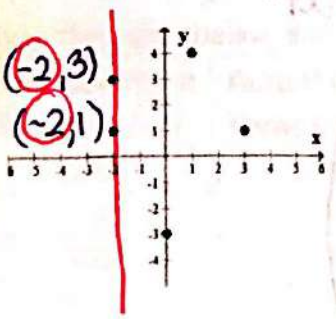
No, it does not pass the "vertical line test" - it hits more than one point when a vertical line is drawn which means x-values repeat.

5. Which of the following diagrams are a function?



all 3 would pass a vertical line test.

6. Is the following a graph a function? Explain your answer.



No, it does not pass the vertical line test. You have a repeating x-value (-2).

7. Using the chart below, explain if this is a ~~function~~.

Input	-2	-1	0	1	2
Output	0	1	2	3	4

Yes, no x-values repeat!!

8. Given $f(x) = 2x + 6$ find $f(4)$ (plug in 4 to solve for $f(x)$)

$f(x) = 2(4) + 6$

$f(x) = 8 + 6$

$f(x) = 14$

9. Given $f(x) = -4x$ find $f(10)$

$f(x) = -4(10)$

$f(x) = -40$

10. Given the following ordered pairs, list the domain: (x-values)
{(2,3), (2,4), (3,5), (5,7), (8,10)}

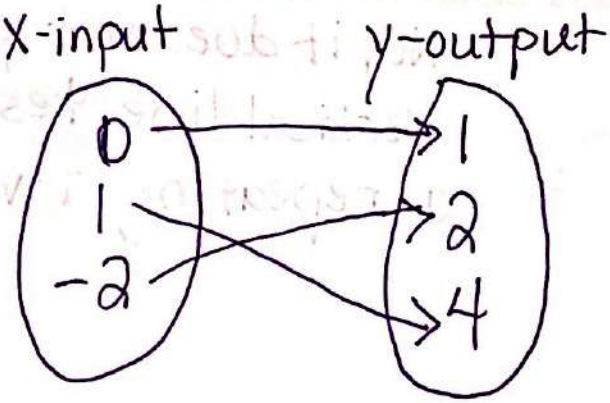
$\{2, 2, 3, 5, 8\}$

11. Given the following ordered pairs, list the range: (y-values)
{(2,3), (2,4), (3,5), (5,7), (8,10)}

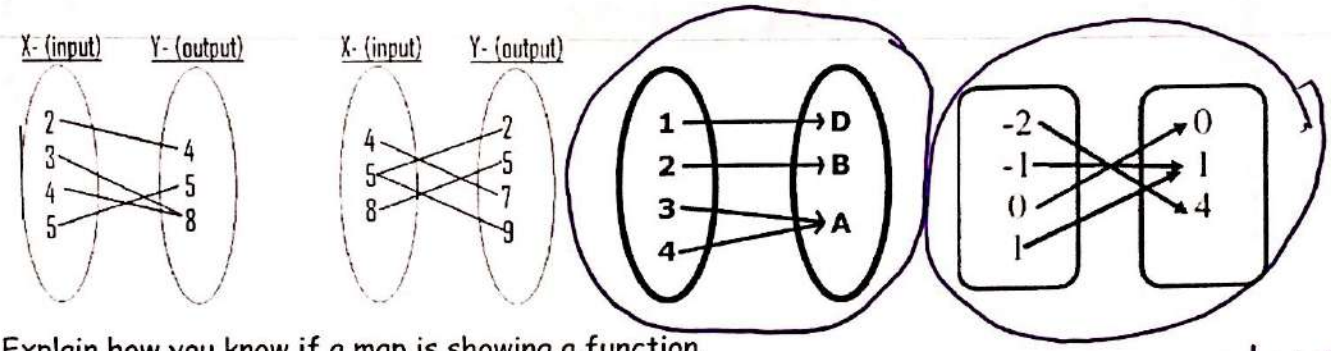
$\{3, 4, 5, 7, 10\}$

12. Given the ordered pairs (1,4), (-2, 2) and (0,1), create a map to determine whether the data is a function or not. Explain why.

Yes, no x-values repeat.



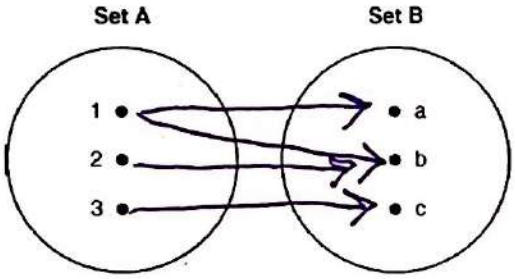
13. Circle the following maps that are functions:



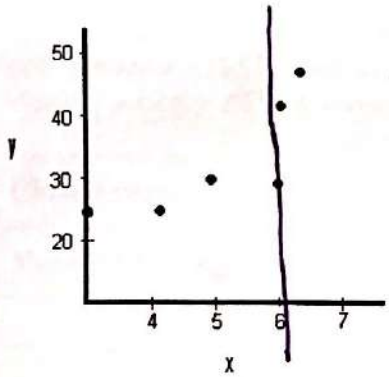
14. Explain how you know if a map is showing a function.

if no x-value has more than one y-value it is a function

15. Given the following diagram, draw a mapping that is a relation and NOT a function.



16. Given the graph below, explain if the scatter plot is a function.



Yes because it passes the vertical line test

17. Given the table below, explain if this is a function or not.

Temperature Setting (x)	Actual Oven Temperature (y)
200°	170°
250°	195°
300°	220°
350°	245°
400°	270°

yes, no x-value repeats