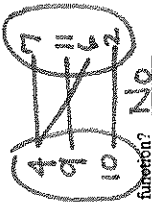


ALGEBRA
Relations and Functions

Name: Key
Period:

Is each relation a function? Use a mapping diagram. Explain your answer.

1. $\{(4, 7), (9, 11), (4, 6), (10, 2)\}$

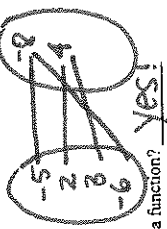


Is it a function? No

Explain:

4 goes to two y-values

2. $\{(-5, -8), (2, 4), (3, 4), (-6, -8)\}$



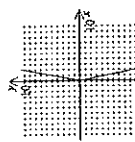
Is it a function? Yes!

Explain: No x-values repeat

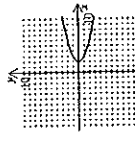
Identify which of the following graphs are NOT functions.

Answer(s): A, B, D (there may be more than one!)

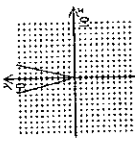
3. [A]



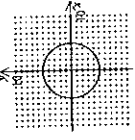
- [B]



- [C]



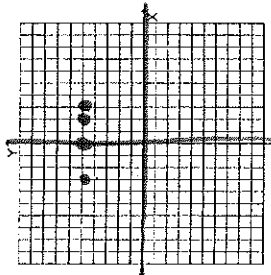
- [D]



Function

Is each relation a function? Use the vertical line test. Explain your answer.

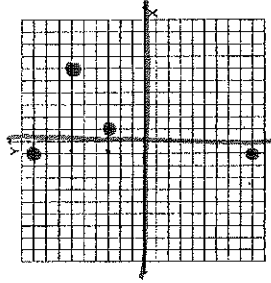
4. $\{(2, 5), (-3, 5), (0, 5), (3, 5)\}$



Yes! Passes

VLT (no x's repeat)

5. $\{(-1, -9), (1, 3), (-1, 9), (6, 6)\}$



No, fails VLT

(-1 goes to 9 and -9)

What Did the Baby Porcupine Say
When It Backed Into a Cactus?



Determine which of the relations below are functions. Find the number of each relation that is a function at the bottom of the page and cross out the letter below it. When you finish, the answer to the title question will remain.

1. $\{(-2, 7), (-1, 5), (0, 8), (1, 2), (1, 1)\}$ Yes
 2. $\{(-7, 20), (3, 5), (0, 5), (-2, 0), (6, -4), (-6, -9), (4, 4)\}$ Yes
 3. $\{(4, 8), (-3, -2), (9, 6), (2, -1), (-4, -5), (2, 7), (-8, 0)\}$ No

x	y
0	-19
1	-12
2	-4
3	3
4	13
5	27

Yes

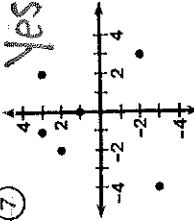
x	y
-5	8
-3	8
-1	-2
1	-2
3	11
5	23

Yes

x	y
-2	-7
-2	5
0	-16
2	0
2	6

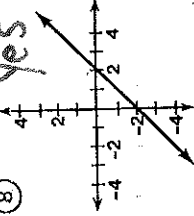
No

- 7.



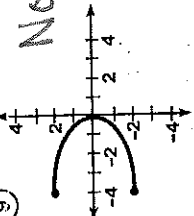
Yes

- 8.



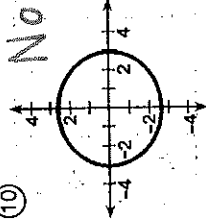
Yes

- 9.



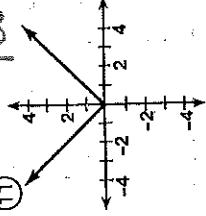
No

- 10.



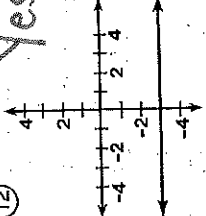
No

- 11.

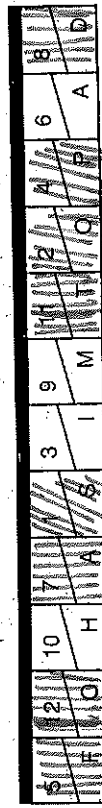


Yes

- 12.



Yes



H I M A ☺