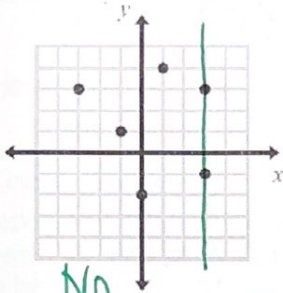


Name: _____

Date: _____

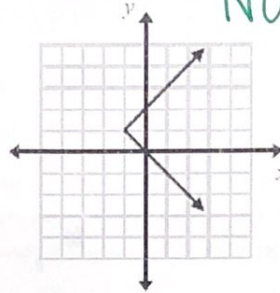
Decide whether the relation is a function.

1.



No
does not pass vertical line test

2.



NO

3.

NO

Input	Output
1	7
	-7
2	8
	-8

1 & 2 both have multiple outputs

Evaluate the function for $f(3)$, $f(0)$, and $f(-2)$. (3 answers for each problem)

4. $f(x) = 2x - 5$

$f(3) = 1$ $f(0) = -5$ $f(-2) = -9$

5. $f(x) = 2x^2 - 3$

$f(3) = 2(3)^2 - 3 = 15$
 $f(0) = 2(0)^2 - 3 = -3$
 $f(-2) = 2(-2)^2 - 3 = 5$

6. $f(x) = (x + 2)^2 - 6$

$f(3) = 19$ $f(0) = -2$ $f(-2) = -6$

If $f(x) = 2x - 3$, $g(x) = x^3 - 2$, and $h(x) = x^2 - 3x + 5$, find each of the following:

7. $f(4) = 2(4) - 3 = 5$

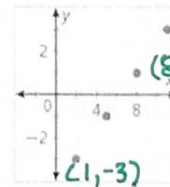
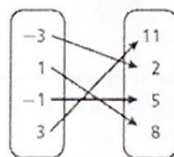
8. $h(-3) =$

$h(-3) = 23$

9. $g(-2) = (-2)^3 - 2 = -10$

10. Which is NOT a correct way to describe the function $\{(-3, 2), (1, 8), (-1, 5), (3, 11)\}$

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



Not the same

11. Beth wants to join the Movie Club. There is a \$30 startup fee and a \$4 monthly fee. Which of the following represent the input, output, and appropriate function for this scenario?

$C(x) = 4x + 30$

A. **Input:** the total cost, **Output:** the starting cost, **Function:** ~~$C(x) = 30x + 4$~~

B. **Input:** the total cost, **Output:** the number of months, **Function:** ~~$C(x) = 30x + 4$~~

C. **Input:** each month, **Output:** the total cost, **Function:** $C(x) = 4x + 30$

D. **Input:** each month, **Output:** the starting cost, **Function:** $C(x) = 4x + 30$

12. Use the table to answer the following:

x	-3	-1	0	1	3
y	5	7	9	11	13

a. Express the relation as ordered pairs.

$(-3, 5), (-1, 7), (0, 9), (1, 11), (3, 13)$

b. Does the relation represent a function? Explain. **Yes each x(input) goes to only one y(output)**

13. Coach Gaffney's candy jar can be represented by the function $c(x) = -3x + 150$, where x represents days of school and $c(x)$ represents the amount of candy remaining. There have been 10 days of school. Which statement represents the amount of candy that she has left in her jar?

- A. $c(10) = 120$
- C. $c(10) = 180$

- B. ~~$c(x) = 120$~~
- D. ~~$c(x) = 180$~~

Review

14. Solve $2x - 3y = 24$ for (x)

$$2x - 3y = 24$$

$$+3y \quad +3y$$

$$\hline 2x = 3y + 24$$

$$\frac{2x}{2} = \frac{3y + 24}{2}$$

$$x = \frac{3y + 24}{2} \text{ OR } x = \frac{3}{2}y + 12$$

15. Solve for x .

$$5 = \frac{2x + 1}{3}$$

$$-1 \quad -1$$

$$\hline 15 = 2x + 1$$

$$\frac{14}{2} = \frac{2x}{2}$$

$$x = 7$$

The sum of 4 consecutive numbers is 706. Find the four numbers.

$$\begin{matrix} x = 175 \\ x + 1 = 176 \\ x + 2 = 177 \\ x + 3 = 178 \end{matrix}$$

$$4x + 6 = 706$$

$$-6 \quad -6$$

$$\hline 4x = 700$$

$$\frac{4x}{4} = \frac{700}{4}$$

$$x = 175$$

Mr. Buckert is building a fence around all four sides of his house. The length of the fence needs to be 6 meters and the width needs to be 1.5 dkm. How much fencing should Mr. Buckert buy at Lowes?

$$6m = .6 \text{ dkm}$$

$$15m = 1.5 \text{ dkm}$$

KHOBDCM

$$6 + 6 + 1.5 + 1.5 = 4.2 \text{ dkm}$$

$$.6 + .6 + 1.5 + 1.5 = 4.2 \text{ dkm}$$

Jake is saving up for a new lacrosse stick. He has saved \$50 so far. He plans to save \$6 each week.

a. Write an equation in slope-intercept form that represents the total amount he has saved.

$$y = 6x + 50$$

b. Create a Table and Graph (week, amount saved)

x	y
0	50
1	56
2	62
3	68
4	74
5	80
6	86

c. If the lacrosse stick costs \$200, how many weeks will he need to save?

$$200 = 6x + 50$$

$$-50 \quad -50$$

$$\hline 150 = 6x$$

$$\frac{150}{6} = \frac{6x}{6}$$

$$x = 25 \text{ weeks}$$

