_____   _____

Name

1. Name the six ways to show a relation between inputs and outputs.

2. Which method of showing a relation does not provide the inputs or outputs?

3. Convert the following equation into a table of values for the following inputs: $y = \dfrac{-2}{3}x + 1$

x	-12	-6	0	6
y				

4. Which of the following are not functions? If it is not a function, explain why it is not.

    a.

x	5	7	9	5
y	3	4	5	6

    b.

x	3	4	5	6
y	3	4	5	6

    c.
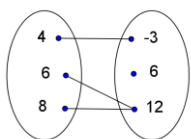
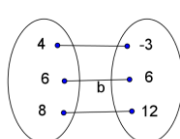| x	-2	-2	-2	-2
y	5	4	5	6

5. What is the domain of the relation given in table "a" in problem #4?

6. What is the range of the relation given in table "b" in problem #4?

7. Which of the following are not functions? If it is not a function, explain why it is not.
    a. {(2, 3), (3, 4), (4, 5)}   b. { (-1, 5), (7, 3), (-1, 5) }   c. { (-6, 8), (-6, 9), (-1, 5) }

8. Which of the following are not functions? If it is not a function, explain why it is not.
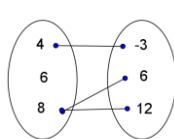   a.   b.   c.

9. What is the equation of the line that fits through the following data?

x	-4	-2	0	2	4	6	8
y	-6	-2	2	6	10	14	18

10. What is the equation of the line that fits through the following data?

x	-1	1	3	5	7	9	11
y	8	4	0	-4	-8	-12	-16

11. Fill in the following table for the equation $y = 3x - 4$

x	-3	-2	-1	0	5	9	11
y							

12. Fill in the following table for the equation $2x - 3y = 6$

| x	-3		-1		0		5
y		-4		0		3	

13. Convert the following "standard form" equation of a line into "slope intercept form." $2x - 3y = 6$

14. Write the equation of the line graphed below.
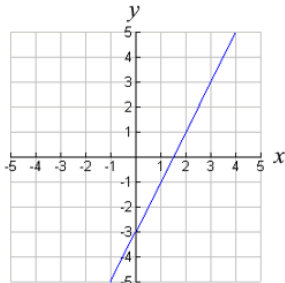
15. (a) write the equation that is represented by the graph
    (b) Is the volume increasing or decreasing with time?
    (c) Is the slope positive or negative?
    (d) What are the "units" of input variable?
    (e) What quantity is represented by output variable?
    (f) Using your equation, determine what the volume will be at t=20.
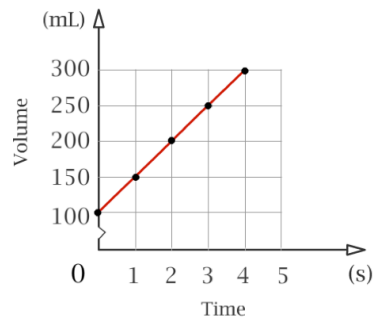
16. Re-write the following equation into "y as a function of x". $-5x + 15y = 30$

17. Write the equation of a line whose slope is $\frac{2}{5}$ and whose y-intercept is 6.

18. Write the equation of a line that passes through the following two points: (0, 5), (7, 10)

22. What is the equation of a horizontal line that passes through the ordered pair (3, -5)?

19. What is the equation of a vertical line that passes through the ordered pair (-2, 6)?