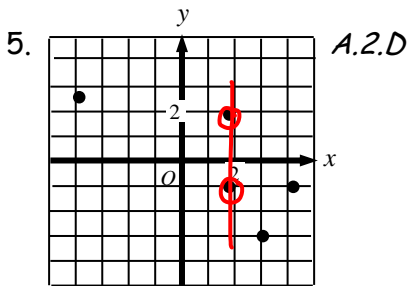


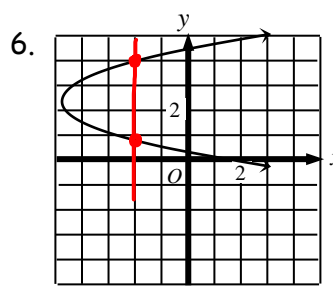
Determine if the following represents a function. Write function or not a function (A.1.C).

1. $\{(4, 4), (-2, 4), (-4, 0)\}$

Function



Not a Function



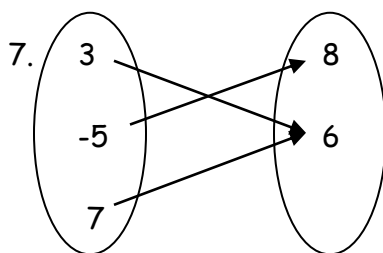
Not A Function

2. $\{(-3, 4), (-2, 4), (1, 0)\}$

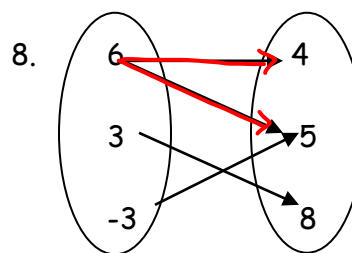
Function

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

Not A Function



Function



Not A Function

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

Function

9. - 11. Complete the table below by filling in the missing information.

List	Table	Mapping	Equation	Graph								
$\{(3, 5), (6, 8), 9, 11)\}$	<table border="1"> <tr><td>x</td><td>y</td></tr> <tr><td>3</td><td>5</td></tr> <tr><td>6</td><td>8</td></tr> <tr><td>9</td><td>11</td></tr> </table>	x	y	3	5	6	8	9	11		$y = x + 2$ $f(x) = x + 2$	
x	y											
3	5											
6	8											
9	11											
$(-2, -5)$ $(0, -1)$ $(3, 5)$	<table border="1"> <tr><td>x</td><td>y</td></tr> <tr><td>-2</td><td>-5</td></tr> <tr><td>0</td><td>-1</td></tr> <tr><td>3</td><td>5</td></tr> </table>	x	y	-2	-5	0	-1	3	5		$y = 2x - 1$ $f(x) = 2x - 1$	
x	y											
-2	-5											
0	-1											
3	5											
$(-1, 5)$ $(0, 2)$ $(1, -1)$	<table border="1"> <tr><td>x</td><td>y</td></tr> <tr><td>-1</td><td>5</td></tr> <tr><td>0</td><td>2</td></tr> <tr><td>1</td><td>-1</td></tr> </table>	x	y	-1	5	0	2	1	-1		$F(x) = -3x + 2$	
x	y											
-1	5											
0	2											
1	-1											

If any, name the type of correlation, the independent, and dependent variable (A.1.A, A.2.D).

12. Age (up to 12 years old) & Height

Type of Correlation positive Dependent Variable Height Independent Variable Age (time)

13. The distance a student lives from school & The time it takes them to get to school

Type of Correlation positive Independent Variable distance Dependent Variable time

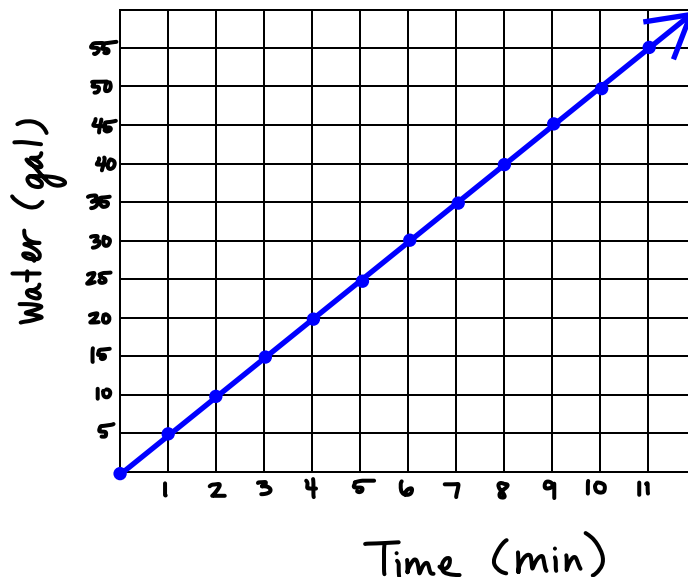
14. The size of your hands & your artistic ability

Type of Correlation NO Independent Variable _____ Dependent Variable _____
correlation

Create a graph and table based on the information given in the situation. Be sure to label the x and y axis, place the independent and dependent variable on the correct axis and create an appropriate scale for your graph. Label the independent and dependent variable on the table as well.

15. An empty 90-gallon bathtub and is being filled at a rate of 5 gallons/min.

Time Minutes	Amount of Water Gallon
0	0
1	5
2	10
3	15
4	20
5	25
6	30



16. Write an equation that describes the relationship between time and the amount of water in the bathtub.

$$y = 5x$$

y = amount of water

x = number of minutes

17. What type of correlation does the relationship represent?

positive correlation
(As time increases, the amount of water increases)

18. At what point in time would the bathtub be full?

* notice: the bath holds 90 gallons

$$y = 5x$$

$$\frac{90}{5} = \frac{5x}{5}$$

$$x = 18 \text{ minutes}$$

19. What is the domain of the function $f(x) = -x + 5$ when the range is $\{-1, 10, 7\}$?

$$\begin{array}{r} -1 = -x + 5 \\ -5 \quad -5 \\ \hline -6 = -x \\ -1 \quad -1 \\ \hline 6 = x \end{array}$$

$$\begin{array}{r} 10 = -x + 5 \\ -5 \quad -5 \\ \hline 5 = -x \\ -1 \quad -1 \\ \hline -5 = x \end{array}$$

$$\begin{array}{r} 7 = -x + 5 \\ -5 \quad -5 \\ \hline 2 = -x \\ -1 \quad -1 \\ \hline -2 = x \end{array}$$

Domain:
 $\{-5, -2, 6\}$

20. What is the range of the function $f(x) = -x + 15$ when the domain is $\{-3, -1, 11\}$?

$$f(-3) = -1(-3) + 15$$

$$f(-3) = 3 + 15$$

$$f(-3) = 18$$

$$y = 18$$

$$f(-1) = -1(-1) + 15$$

$$f(-1) = 1 + 15$$

$$f(-1) = 16$$

$$y = 16$$

$$f(11) = -1(11) + 15$$

$$f(11) = -11 + 15$$

$$f(11) = 4$$

$$y = 4$$

Range:
 $\{4, 16, 18\}$

21. If $(x, 2)$ is a solution to the equation $y = 5x + 1$ what is the value of x ?

$$\begin{array}{r} 2 = 5x + 1 \\ -1 \quad -1 \\ \hline 1 = 5x \\ \frac{1}{5} = \frac{5x}{5} \\ x = \frac{1}{5} \end{array}$$

$(\frac{1}{5}, 2)$

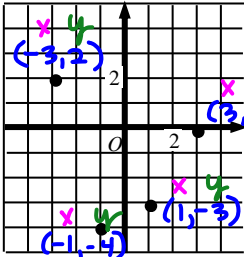
22. If $(-6, y)$ is a solution to the equation $3x - 4y = 10$, what is the value of y ?

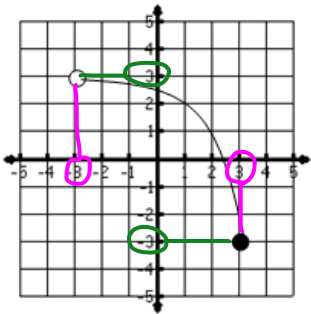
$$\begin{array}{r} 3(-6) - 4y = 10 \\ -18 - 4y = 10 \\ +18 \quad +18 \\ \hline -4y = 28 \\ \frac{-4y}{-4} = \frac{28}{-4} \\ y = -7 \end{array}$$

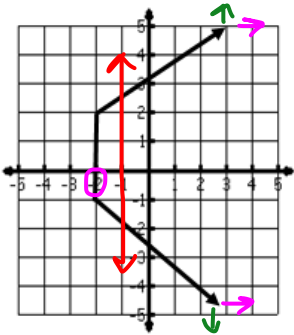
$(-6, -7)$

Identify the domain and range of each situation. Then determine if the situation represents a function (A.2.B).

23. $\{(7, -5), (8, 7), (7, -2)\}$
 $\begin{matrix} x & y & x & y & x & y \\ 7 & -5 & 8 & 7 & 7 & -2 \end{matrix}$
 domain $(7, 8)$
 range $(-5, -2, 7)$
 function? NO

24. 
 domain $(-3, -1, 1, 3)$
 range $(-4, -3, 0, 2)$
 function? Yes!

25. 
 domain $-3 < x \leq 3$
 range $-3 \leq y < 3$
 function? Yes!

26. 
 domain $-2 \leq x$
 range TR (all real numbers)
 function? NO

27. Klaus Klawn has kept track of his algebra test scores and recorded them in the table below. Determine the domain and range of the data and if it represents a functional relationship. (A.1.B, A.2.B)

Unit	3	1	2	4	6	5
Score	45	61	58	71	45	42

domain $(1, 2, 3, 4, 5, 6)$
 range $(42, 45, 58, 61, 71)$ functional relationship? Yes!

Predict a reasonable score that Klaus Klawn will make on unit 7 test any score from 42 - 71