1. The table below shows English words and the number of letters in the word.

Words	Letters
Dog	3
Horse	5
Elephant	8
Pig	3

a) Describe the relation in words.

b) Represent the relation as a set of ordered pairs.

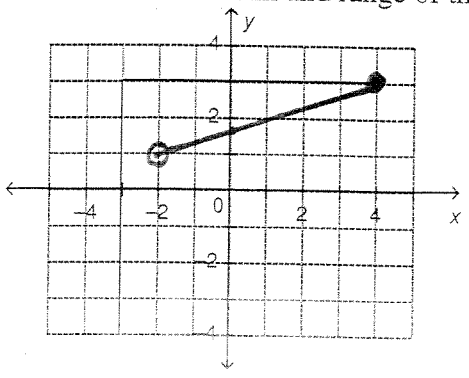
2. Looking back at question #1, write out the domain and range for the relation.

3. Which of the following represent a function?
(Put Function or Not a Function in blanks)

a) {(3, 4), (2, 4), (1, 5)} _____

b) {(2, 1), (2, 2), (3, 1), (3, 2)} _____

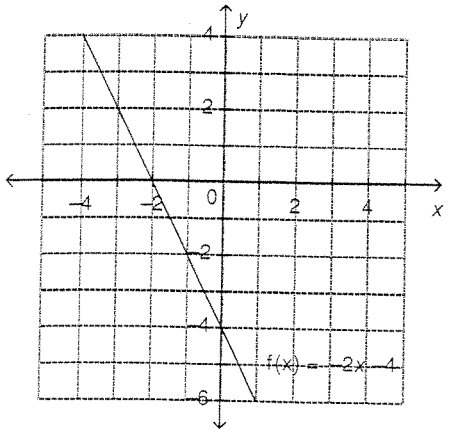
4. Determine the domain and range of this graph. Please use set notation.



Domain:

Range:

5. This is a graph of the function $f(x) = -2x - 4$. Determine the domain value when the range value is –2.

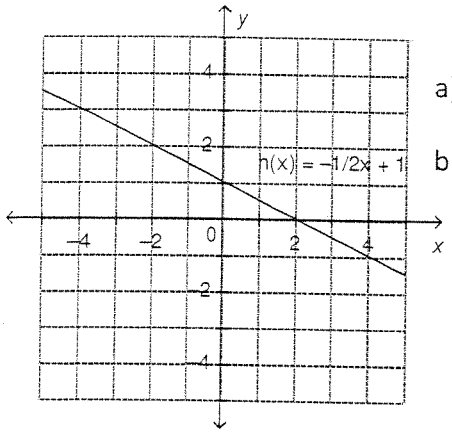


6. Which set of ordered pairs represents a linear relation?
(Put Linear Relation or Not a Linear Relation in the blanks.)

a) {(5, 10), (6, 20), (7, 40)} _____

b) {(30, 10), (20, 20), (10, 30)} _____

7. This is a graph of the function $h(x) = -\frac{1}{2}x + 1$.

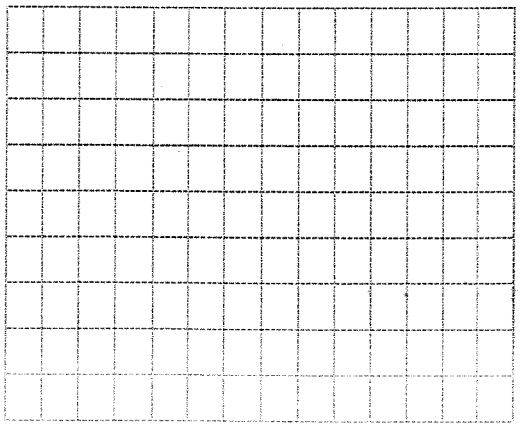


a) Determine the range value when the domain value is –2. _____

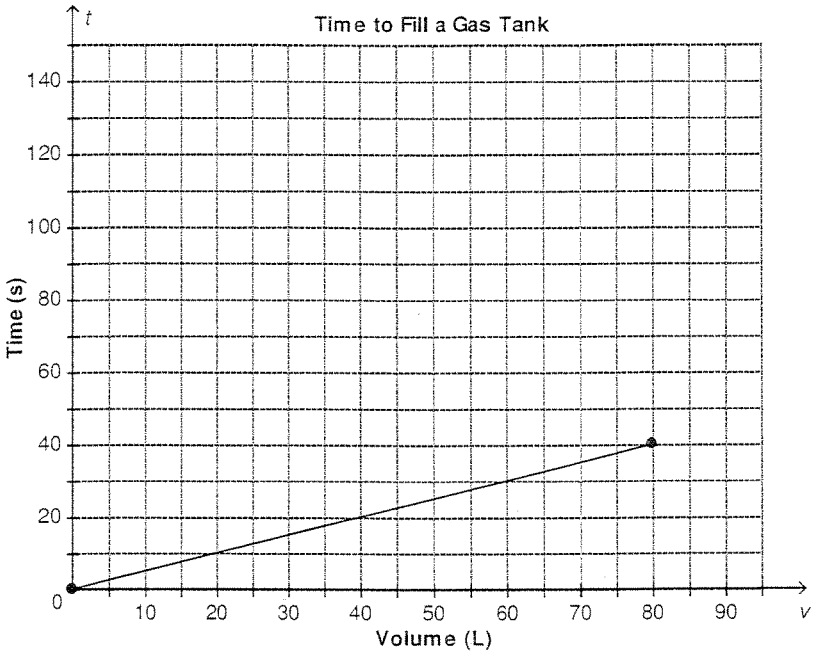
b) Determine the domain value when the range value is –1. _____

8. For this table of values,
   a) Graph the data. Will you join the points? Justify your answer.
   b) Does the graph represent a function? Explain.

People, n	Cost, C ($)
15	0.50
30	1.00
60	2.00
90	3.00
120	4.00



9. This graph shows the time it takes to fill a gas tank from empty.



a) Determine the rate of change.

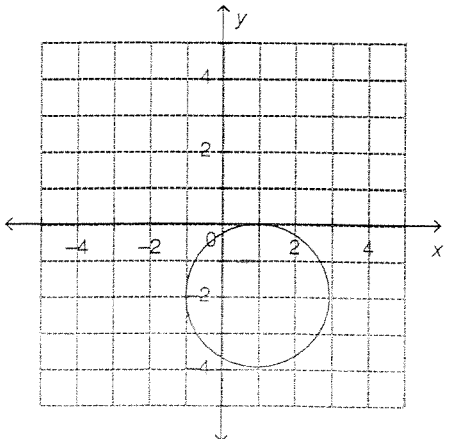
b) Write the domain and range.

c) About how long will it take to fill a 45-L gas tank?

10. The altitude of a plane, a metres, is related to the time, t minutes, that has elapsed since it started its ascent. Determine the rate of change of this linear relation.

t (min)	0	2	4	6	8
a (m)	4000	5400	6800	8200	9600

11. Identify the domain and range of the following graph. Please use interval notation.



Domain:

Range:

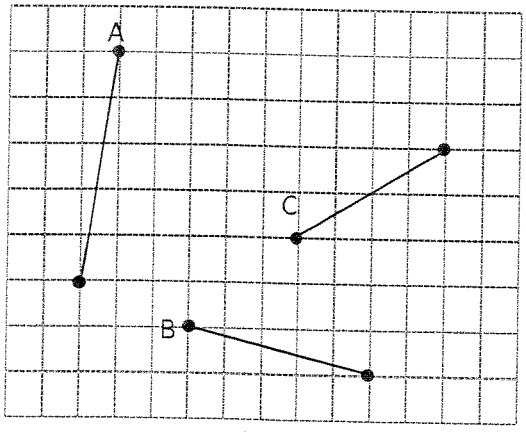
12. Given $f(x) = 4x - 10$,

a) find $f(3)$

b) find x, if $f(x) = 42$

13. Gail leaves the house for her morning jog. She stops for a quick drink, and then continues jogging before stopping again to chat with a friend. She then jogs back home. Draw a graph of her distance in kilometers from home as a function of time in minutes.

14. What is the slope $\frac{\text{rise}}{\text{run}}$ of the line segments (labeled A to C) given below:

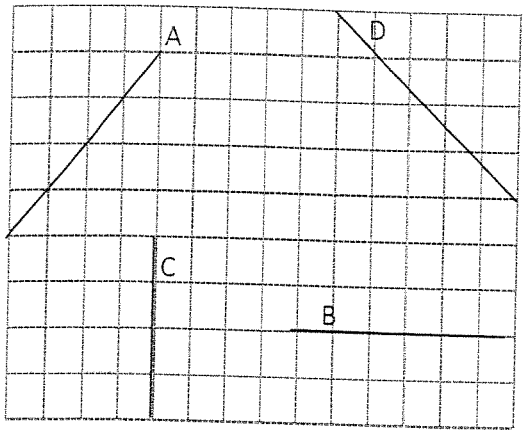


slope of A:

slope of B:

slope of C:

15. State whether the line segments (labeled A to D) below have slopes that are positive, negative, zero or undefined.



A: _____

B: _____

C: _____

D: _____

16. Given the following pairs of points use the slope formula to calculate the slope of the line segment that passes through the points.

Slope Formula: $m = \frac{y_2 - y_1}{x_2 - x_1}$

a) (3, 4) and (5, 8)

b) (-2, 1) and (3, -9)