1.   Identify the independent and dependent variables for each situation:

   a). The amount of vitamin C one consumes can influence life expectancy.
   Independent – vitamin C   Dependent – life expectancy

   b). A farmer wants to determine the influence of different quantities of fertilizer on
       plant growth.
   Independent – fertilizer   Dependent – plant growth

   c). The time spent studying will influence test scores.
   Independent – time   Dependent – test scores
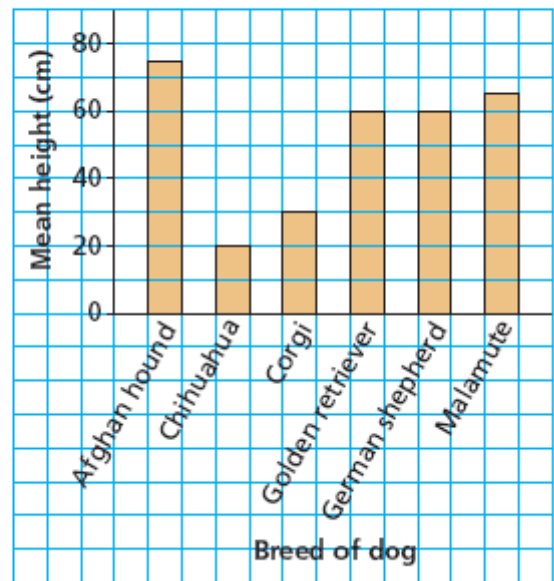
   d). The weight of a letter will determine the amount of postage paid.
   Independent – weight   Dependent –postage paid

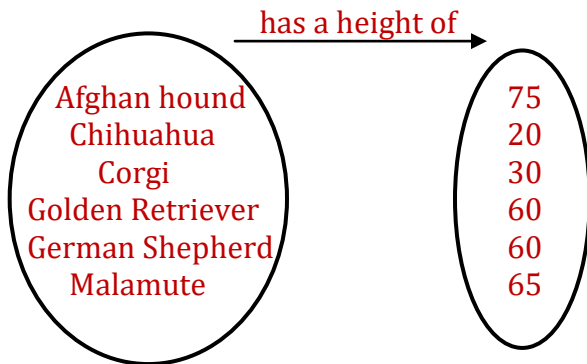2.   Consider the relation represented by the graph.
     Represent the relation:

   a). as a table.

Animal	Height (cm)
Afghan hound	75
Chihuahua	20
Corgi	30
Golden Retriever	60
German Shepherd	60
Malamute	65

Mean Heights of Different Breeds of Dogs

   b). as an arrow diagram.

has a height of

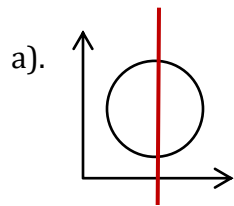|	
Afghan hound	75
Chihuahua	20
Corgi	30
Golden Retriever	60
German Shepherd	60
Malamute	65

3. Determine if the following sets of ordered pairs represent functions. Use the definition of a function to support your answer.
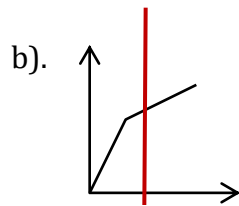
   a). (2,4) (3,6) (4,6) (5,6) (6,12) (7,14) **Function**

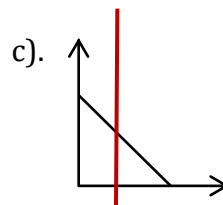   b). (− 3,7) (0,10) (3,13) (3,− 5) (6,16) (9,19) **Not a Function**

4. Determine if the following graphs represent functions. Use the definition of a function to support your answer.
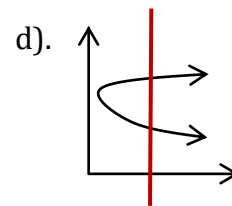
a).   b).   c).   d).

   not a function   **function**   **function**   **not a function**

5. Evaluate.

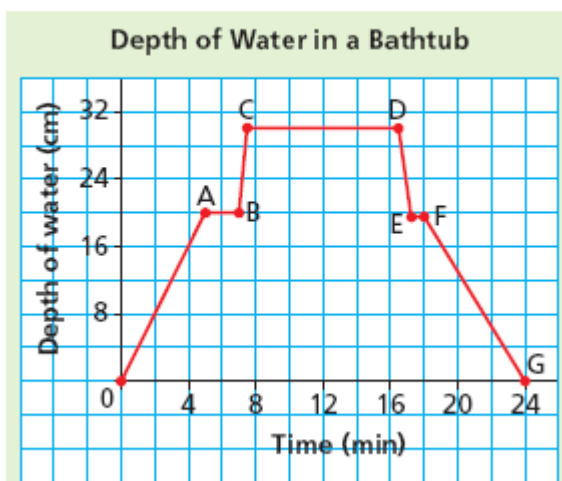a). $d(t) = 3t + 4$, determine $d(3)$ **d (3) = 13**

b). $f(x) = 5x - 11$, find the value of x that makes $f(x) = 9$.   **x = 4**

c). $g(x) = - 3x + 2$, find the value of x that makes $g(x) = - 7$.   **x = 3**

6. The perimeter of a rectangle is $P = 2l + 2w$. Write the perimeter as a function of the width if the length of the rectangle is 6 ft.

   P (w) = 2w + 12

7. This graph shows the depth of water in a bathtub as a function of time.

a). What does each section of the graph represent?

OA – filling up tub
AB – water stopped running
BC – person sits into the tub so water rises
CD – washing
DE – water drops fast, person gets out of tub
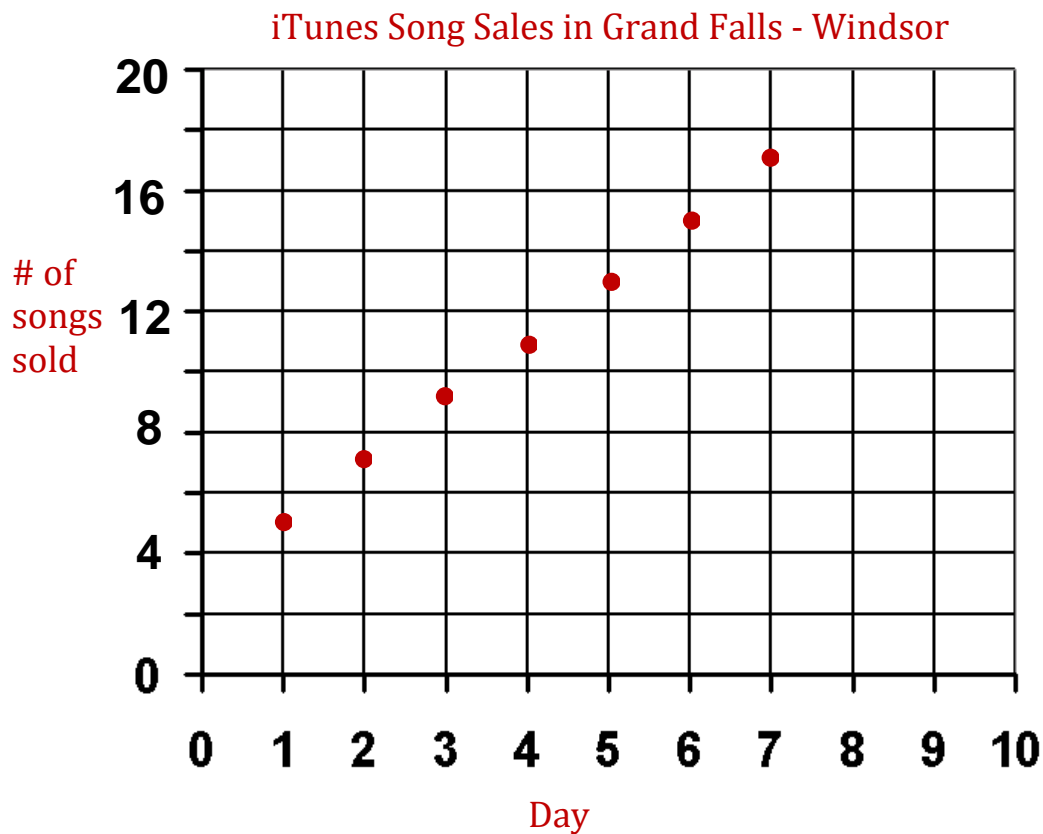**EF – water stayed the same, person dries off**
FG – water is drained out of tub

b). Write a description of the graph.

8. The following data represents the sales of a song on iTunes in Grand-Falls Windsor area during a seven day period.

Day	1	2	3	4	5	6	7
# Sold	5	7	9	11	13	15	17

a). Why is this relation a function? **Each domain has one range**

b). Is the data continuous or discrete? **Discrete, can't download half a song**

c). Draw a graph to represent the data? Should you connect the points?

iTunes Song Sales in Grand Falls - Windsor

d). Write the domain and range of the function.

Domain {1, 2, 3, 4, 5, 6, 7}   Range {5, 7, 9, 11, 13, 15, 17}