Math 1201: Worksheet **Unit 5: Relations and Functions**
Sec 5.1 – 5.3

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

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

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

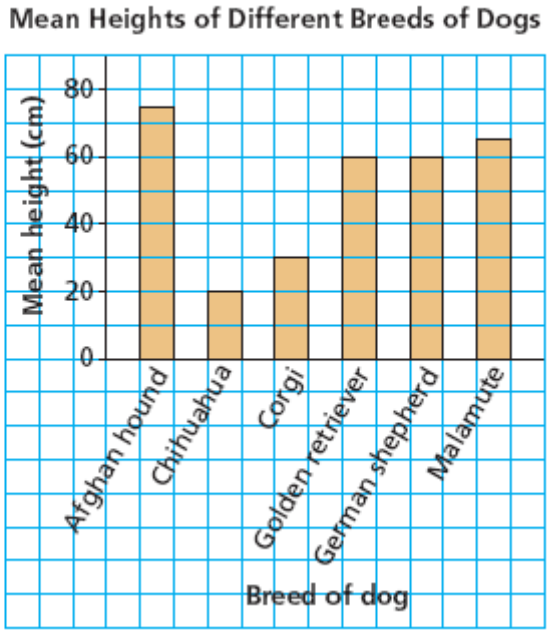
   c). The time spent studying will influence test scores.

   d). The weight of a letter will determine the amount of postage paid.

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

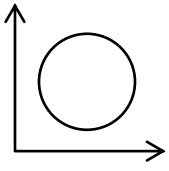
   a). as a table.

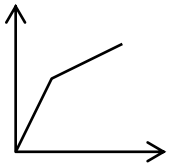
   b). as an arrow diagram.

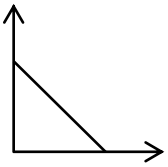


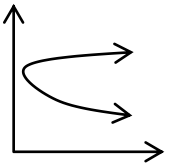
3. Determine if the following sets of ordered pairs represent functions. Use the definition of a function to support your answer.
   a). (2,4) (3,6) (4,6) (5,6) (6,12) (7,14)
   b). (– 3,7) (0,10) (3,13) (3, – 5) (6,16) (9,19)

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

a). 

b). 

c). 

d). 

5. Evaluate.

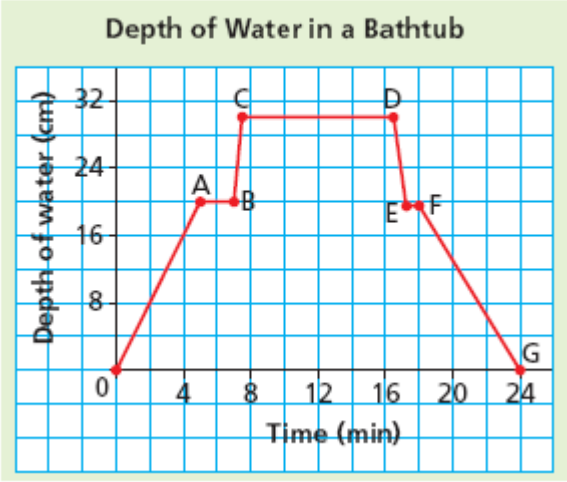
a). $d(t) = 3t + 4$, determine $d(3)$

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

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

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.

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?

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?
b). Is the data continuous or discrete?
c). Draw a graph to represent the data? Should you connect the points?
d). Write the domain and range of the function.