

Applied Calc 1 Worksheet 2

Section 1.

Decide whether each statement is true or false. Discuss with a partner or group. If necessary clarify conditions under which it might be true or false.

- A. Mother is a function of person.
- B. Grandmother is a function of person.
- C. Temperature is a function of barometric pressure.
- D. Price of a share of Google is a function of time.

Section 2.

Let $f(x) = \sqrt{10 - x}$. Answer the following questions, if possible.

- A. What is $f(1)$? What is $f(6)$?

- B. Could $f(x)$ be 2.5 for some x ? If so, can you find such an x ?

- C. What is the domain of f ?

- D. What is the range of f ?

- E. Does the graph of f have a y intercept? If so find it.

- F. Does the graph of f have an x intercept? If so find it.

Section 3. A line goes through the points $(-2,8)$ and $(3,5)$. Find the following:

- A. The slope of the line

- B. An equation for the line

- C. The y intercept of the line

- D. A function $f(x)$ whose graph is a straight line through the given points.

- E. Suppose the given points are from a graph showing air temperature on the x axis and the hourly cost of heating on the y axis. If temperature is in units of degrees, and hourly heating cost is in units of dollars, what are the units of the slope of the line? How should the slope be interpreted?

Section 4. The table below includes some sales survey data conducted at sporting events in a local arena. It reports how many sodas could be sold at various prices on an average night.

Price per soda	1.00	1.25	1.50	1.75	2.00
Number sold	3500		2500		

- A. With nothing else to go on but the data in the table, what is your best guess for the number sold at a price of \$1.25? How did you find that?

- B. Using similar logic, what would you predict as the number sold at a price of \$1.75? Of \$2.00?

- C. Enter your findings in the table. Does the result indicate a linear function? How can you tell?

- D. Fill in a new table below showing for each price the total amount of money collected by selling sodas.

Price per soda	1.00	1.25	1.50	1.75	2.00
Soda Income			3750		

Is this new table indicative of a linear function? Why or why not?