1) Suppose you are considering the relationship of:

\( x \), the number of minutes after 12:00 noon today (independent), and

\( y \), the temperature at the MU fountain in Fahrenheit (dependent)

a. Is this relationship a valid function? _____ Why or why not?

b. Using the function named \( T \) and units specified, express the temperature today at the fountain:

b. at 11:50 a.m.__________

c. \( h \) minutes after 12:15 pm__________

d. Use \( T \) to express the change in temperature from 1 pm to 2 pm__________

e. What variable based on \( x \) and/or \( y \) could express this same change in temperature? _______

f. Write an expression for \( y_{\text{NEW}} \), the current temperature, in terms of the temperature some time prior to this, \( y_{\text{OLD}} \). (Don't use function notation, i.e. \( T \).) \( y_{\text{NEW}} = \) ________________

2) Suppose the first command line in a new GC file is the function definition

\[ p(b) = \pi b^2 \]

a. Below, write out the keystrokes, in order, that correctly produces the command line at right.

b. Suppose a function \( g \) is properly defined in GC. What other mathematical statement, if entered in GC, will produce each of these?

i) the value of \( g \) when the value of the independent variable is 15/7.

ii) the displayed graph of \( g \) for all non-negative values of the independent variable

iii) a displayed correspondence point determined by \( g \) when the independent variable = 15/7

iv) a vertical segment extending from the point defined in iii), to the point having the opposite dependent value

v) a horizontal segment extending from the \( y \)-axis to the point defined in iii)

c. Explain precisely what you are looking at when viewing a displayed graph, like the one described in 2b ii) above.