TI-83 Calculator Instructions for Simple Regression

Performing a regression analysis for a given set of $x$ and $y$ values

1. First enter the $x$- and $y$-values in lists 1 and 2 in your calculator:
   - Select [STAT] [EDIT] [ENTER]
   - Type in the $x$ data values in list L1
   - Type in the $y$ data values in list L2
   - [QUIT] the Stat-Edit mode.

2. Draw the scatter plot for the data as follows:
   - Select [STAT PLOT] [ENTER]
   - Select [On] then press [ENTER]
   - Select the image that resembles a scatter plot then press [ENTER]
   - For Xlist: type L1
   - For Ylist: Type L2
   - Choose your favorite Mark
   - Select [Y=] to make sure you have no other graphs in memory
   - Select [WINDOW] to make sure your window is appropriate
   - Finally, press [GRAPH]

3. If all necessary assumptions for valid predictions in regression are true then, to obtain $r$, $r^2$, $t$ (as well as the corresponding $p$-value) and $y' = a + bx$ and $s_{est}$ proceed as follows.
   - Select [STAT] [TESTS] [LinRegTTest] [ENTER]
   - For Xlist: type in [L1]
   - For Ylist: type [L2]
   - Set Freq: to be 1
   - Leave the RegEQ blank for our purposes
   - Choose $[\rho \neq 0]$ for our purposes, then select [CALCULATE].

4. To superimpose the graph of $y' = a + bx$ on the scatter plot in (2), proceed as follows:
   - Select [Y=]
   - Place the cursor in the $\text{Y}_1$ location
   - Select [VARS] [Statistics] [EQ] [RegEQ] [ENTER]
   - Press [GRAPH]