Week 3 Pre-Calc Assignment:

Day 1: pp. 64-68 #1c, 3a, 5,9,13-29 odd
Day 2: pp. 64-68 #39-47 odd, 51-53 odd, 63a, 63d, 65-69 odd, 73, 77, 81, 83
Day 3: pp. 74-76 #1-7 odd, 13-21 odd, 27, 31, 33
Day 4: pp. 74-76 #35-47 odd, 51, 61, 67, 71

Notes on Assignment:

Pages 64-68:

#5: Use the Mathgraphs on your cd if you want. Each needs to be done on a separate
    graph, so make multiple copies.

#9: These are all rigid transformations.

#13-17: Look on page 55 for a listing of the common functions.

#19-29: These are all rigid transformations.

#47a: Notice that the y-value has been multiplied by 3. This is a vertical stretch of a factor
    of 3.

#47b: Notice that if this graph had not been shifted up 3 units you would have a vertical
    stretch of 4 units.

#51: Compare the point (1,1) of the common function to the new point of (1,2) on #51.
    This shows a vertical stretch of 2.

#69: Not the horizontal and vertical shifts and apply these to the points.

Pages 74-76:

#1-3: Make a table. In your table make a column for x, f(x), g(x) and (f+g)(x). Note that
    your (f+g)(x) column will just be the sum of your f(x) and g(x) columns.

#27: Find the equation for (f+g)(x) first, then graph it.

#31: R is the distance traveled while the driver is reacting. B is the distance traveled while
    the driver is braking. We want a function to represent the total distance. When you
    graph this, graph it on your calculator. Use $0 \le x \le 60$ and $0 \le y \le 300$.

#33: Make lists for each column in the table as follows. Press [STAT] [Edit]. Use the arrow keys to highlight the list name of the first column. Press [INS] to insert a new list. It will ask you to name the list at the bottom of the screen. Name your list YEAR. Use the down arrow to go to the first entry of your list. From your problem, you are told to let t = 3 stand for 1993, so enter the numbers 3-9 in your YEAR list to stand for the years in your table. Repeat the process for the other 3 columns of your table. Use [INS] to insert a new list. Name the other 3 lists Y1, Y2, Y2, as they are in the problem. Type in the values from the table into each list.

#33a: To find the quadratic regression model for YEAR and Y1, you are finding the quadratic equation that best fits the ordered pairs formed by your 2 lists. Press [STAT], then use the right arrow to highlight CALC. Choose QuadReg from the menu. You should see QuadReg on your screen with a blinking cursor after it. The calculator is waiting for you to enter your 2 lists. Do NOT type in the names of the list using the ALPHA keys. You must press [LIST] and scroll down until you see your list called YEAR. Highlight that list name and press [ENTER]. Then press the comma button. Press [LIST] again and scroll down until you can select your list called Y1. Press [ENTER]. You will get the information for your quadratic equation. Substitute a,b,c into the general equation and you are done. Repeat this process using YEAR and Y2, and also using YEAR and Y3, only this time instead of a quadratic equation, you want a linear one. So when you press [STAT], then CALC, choose LinReg(ax+b) instead of QuadReg. Do the rest the same. It will give you the slope (called a instead of m) and also the y-intercept (b). Put those into the equation and you are done.

#33b: Use the 3 equations from part (a) to get a sum equation.

#33c: Remember that if 9 represents 1999, then 13 would represent 2003.