Excel 2003 – Formulas and Functions

1. Cell References:
   a. Relative – cell reference stated as =sum(A1:A7), if formula in this cell is copied to B8 cell, the formula will be applied to that cell and the reference will change to =sum(B1:B7)
   b. Absolute – cell reference is stated with $ in front of column and row such as $A$9, most commonly used to refer to a constant value. Example in step 3a.iii below.
   c. Mixed – cell reference for either an absolute column and a relative row, or an absolute row and a relative column. Such as $A1 or A$1

2. Entering simple formula:
   a. Enter calculation using arithmetic symbols
      - + equals add, - equals subtract, * equals multiply, / equals divide
   b. Sample =A1-B3+G4/5 remember rules it appears as ((a1-B3)+G4)/5)

3. Entering simple formula with SUM function:
   a. Choose cell where you want results to be located:
      i. Always enter formula with equal (=) sign first
      ii. Enter function and then cells involved:
          1. =sum(B1,B2,B3)
          2. =sum(B1:B3)
          3. =sum( then click on cells you want included in sum)
          4. press Σ icon and type cell reference between parenthesis, or click on cells you want to include in formula.
   iii. Absolute reference:
          1. =(b1*$G$14) with .07 in cell G14 as a discount
          2. NOTE: formula can be copied to other cells and the relative cell reference will change, but the absolute remains the same.
          3. Change the percentage in cell G14 and all the calculations will change to the new percentage automatically.
   iv. Printing Formulas:
          1. To print formulas, you'll need to display formulas on the worksheet. In the practice session you'll see how to do this by clicking Formula Auditing on the Tools menu and then clicking Formula Auditing Mode.
          2. Ctrl + `(key to left of 1 on regular keyboard) will also display formulas.

4. Entering more complex formulas:
   a. Grading sheet for a class
      i. paper 1 = 10%, paper 2= 15%, exam 1= 20%, exam 2= 25%, final = 30%
      ii. formula would be =C21*.10+D21*.15+E21*.20+F21*.25+g21*.30

5. Excel Functions:
   a. Regular functions are SUM, MIN, MAX, AVERAGE. Other functions are available by clicking More Functions in the AutoSum list. More Functions opens the Insert Function dialog box, which helps you to search for a function. Click Help on this function at the bottom of the dialog box to find out more about any function.
   b. Text Function:
      i. REMEMBER: Data – Text to Columns to split data (delimited, fixed)
      ii. Proper takes caps to mixed or proper case
          1. [=Proper (C8)] SMITH, NATALIE to Smith, Natalie
      iii. Concatenate – use & to separate cells and punctuation marks
          1. Example [=Concatenate (A1", ",&B1)] NOTE: use & to add elements, use " to add text or spacers such as a comma or space.