

Lab #1

September 14, 2017

MATH 141.200

Name: _____

The spreadsheet may be worked in the Libre office or in Excel. If you use Libre office, you can save the result in the Libre office format (.ods) or in the Excel format (.xlsx). From Libre Office, to save as an excel file: click on **File**, select **Save As**, enter the name, change the type from ODF Spreadsheet to an excel format, and then click on save.

Note: These commands work for the open office spreadsheet. They might have to be adjusted for the Microsoft Excel program. Use a spreadsheet help files for an explanation of the syntax of a command.

Here are some commands/properties of a spreadsheet that may be useful.

A **cell** in a spreadsheet is always referenced by a row number and a column letter. for example C4. This is the information in row 4 and column C (third column). This style of reference is useful when computing formulas. You can put the data in certain cells and have the formula, which is in a different cell, reference the data it needs.

When **copying a formula** from one cell to another cell, the spreadsheet will automatically adjust the cell references based on how far you move the original formula. To stop this automatic adjustment of the cell reference, you need to add \$ signs to the cell reference. for example \$C\$4 would keep the cell reference C4 from changing when you copy and paste. If you did \$C4 then only the C would be kept fixed and the row 4 reference would change. Similarly if you did C\$4 the column C would change and the row 4 would be fixed.

The term **range** refers to a set of cells being referenced. A1:C7 means all of the cells that form the rectangle from A1 down to C7. If you plan on copying a formula and you want the range to stay the same then reference by \$A\$1:\$C\$7.

combin(count1, count2) will compute the combination where count1 is the number of items to select from and count2 is the number of items selected.

Example

=COMBIN(3,2) returns 3.

=COMBIN(A1,A2) would compute the combination of selecting A2 items (the number in A2) from a group of A1 items (the number in A1).

permut(count1, count2) will compute the permutation where count1 is the number of items to select from and count2 is the number of items selected.

Example

=PERMUT(3,2) returns 6.

sum(range) will add the numbers in the cells in the specified range.

Example

=SUM(A1,A3,B5) calculates the sum of the three cells.

=SUM (A1:E10) calculates the sum of all cells in the A1 to E10 cell range.

Name: _____

Lab # 1

September 14, 2017

The page s due at the start of class on **September 14, 2017**. The spreadsheet is due by 5pm of this day.

Enter your name in cell A1 of the first page of the spreadsheet. Work each problem on a different sheet(page) of the spreadsheet.

A spreadsheet has two advantages when doing computations. The first is the ability to copy formulas. The second is the ability to quickly change a number and have the calculation recomputed.

In this lab you want to use the spreadsheet's ability to reference cells to compute how many ways this sample can be created. Your sheet should have the ability to change the number of the balls in the box and have a new computation done WITHOUT retyping any formulas.

I will grade things by changing some of the given values and seeing if your calculations are correct. Labels and colors are nice to have in the spreadsheet.

Problem 1: Create a sheet that gives the following information. You are going to select a sample of balls from a box that has both red and green balls. The number of each color and the size of the sample are indicated above the following tables.

Compute the following and record the results.

Box has: 6 red and 7 green. Sample size = 5.

number of red in the sample	exactly 2	exactly 3	exactly 5
number of outcomes:			

Box has: 8 red and 12 green. Sample size = 7.

number of red in the sample	exactly 5	exactly 6	exactly 7
number of outcomes:			

Problem 2: Create a sheet(on page 2) that gives the following information. Create a table that gives the following information: A sample of 12 balls are to be selected. How many ways can this be done with at least 6 red balls selected?

Compute the following and record the results.

number of items in the box	12 red 10 green	15 red 20 green
number of ways to get at least 6 red:		

Problem 3: Work this problem on Sheet 3. A box has a total of 8 red balls, 7 green balls and 4 purple balls. A sample of 10 balls are to be selected. How many ways can this be done with at least 4 red balls and at least 3 green balls are selected?

Answer: _____

You should turn in this page with the answer written on it. Also email me the spreadsheet. In the subject line of the e-mail please include that this is lab 1.