Steps to Develop a Statistically Significant Sample

1. **Excel – Preparing to Develop Simple Random Sample:**
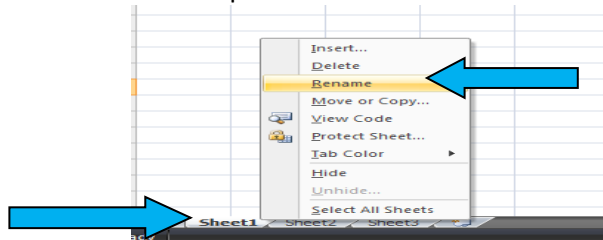   a. Go to the "Investigation" sheet (at bottom of the spreadsheet) that resulted from the Paid Claims application or from your Billing department.
      i. Right click on the worksheet's name at the bottom.
         1. Choose Option "Move or Copy."
         2. Click "(move to end)."
         3. Check the box "Create a copy."
         4. Click "OK"
      ii. Right click on the worksheet's name at the bottom.
         1. Choose Option "Rename"

         2. Name the worksheet "Forum Sample A Dev" then press the Enter key
   3. **Save your work*****

Save location should be within folder containing all materials related to your audit

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   b. Go to the new tab "Forum Sample A Dev."
      i. Determine total amount of claim lines and document. Remember to exclude the "heading" line in Row 1. Document the total amount of claim lines in the current strata tab in the appropriate box on **Appendix A**.
      ii. Determine the mean of the claim line payments:
         1. Go to the first empty cell below the data in Column O (Amount Paid).
         2. Type =average. A function box will appear, double-click on the selection that says "AVERAGE."
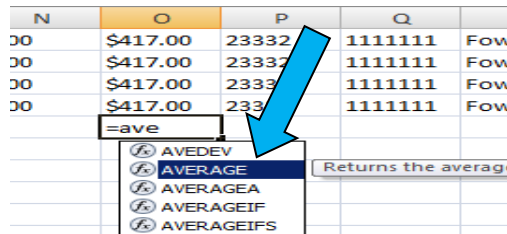
         3. Click on the cell above, that contains the last paid claim amount.
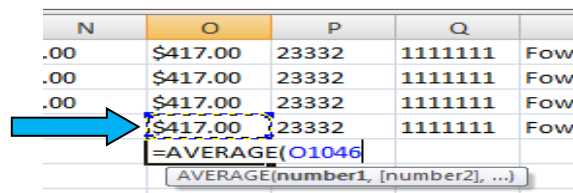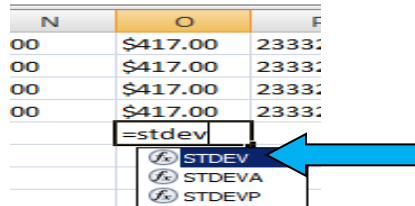

         4. Press and hold the control and shift keys, then use the "up" arrow to go to the top of the Column.
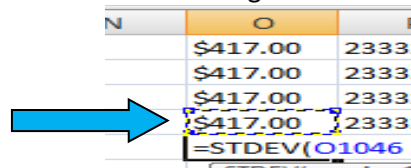
5. Press shift and down arrow to 'unhighlight' the heading. (Ensure that the last highlighted cell is now O,2.)
6. Press Enter.
7. Make sure the cell containing the mean is formatted to Number and 3 decimals. Document the mean in the appropriate space on **Appendix A**.
8. Once the Mean is documented in **Appendix A**, clear contents of the cell.

iii. Determine the standard deviation of the claim line payments:
1. In the empty cell where we had calculated the mean, type =stdev. A function box will appear, double-click on the selection that says "STDEV."


2. Click on the cell above that contains the last paid claim amount just as you had done when calculating the Mean.


3. Press and hold the control and shift keys, then use the "up" arrow to go to the top of the Column.
4. Press shift and down arrow to unhighlight the heading.
5. Press Enter.
6. Make sure the cell containing the Standard Deviation is formatted to Number and 3 decimals. Document the Standard Deviation in the appropriate space on **Appendix A**.
7. Once the Standard Deviation is documented in **Appendix A**, clear contents of the cell.

iv. Sort worksheet by "Invoice Number" Column G and "Invoice Line" Column H from smallest to largest:
1. Highlight sheet by clicking on the box with the arrow between Column A and Row 1.
2. Click on the "Sort & Filter" button located on the far right of the Home tab, then select "Custom Sort."
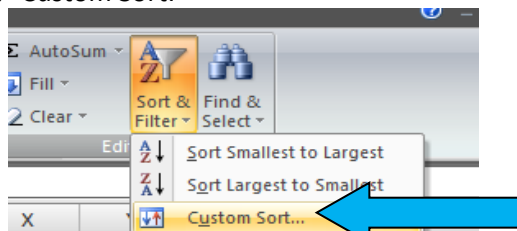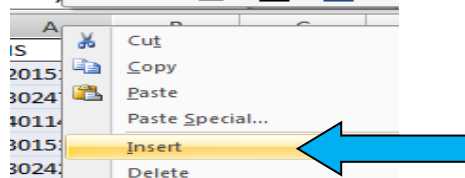

3. In the drop down box next to "Sort By" select "Invoice Num", then select "Add Level."
4. In the new drop down next to "Then By" select "Invoice Line."
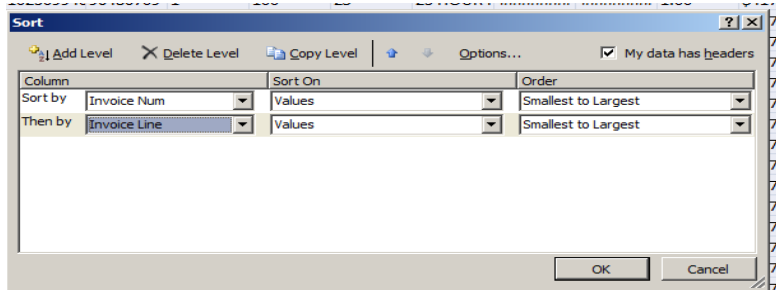
5. Once your window looks like the example above, Click OK.
6. **SAVE YOUR WORK!**

    v. Add a blank column on left of Column A.
       1. Right click on Column A and select "Insert."

       2. Entitle Column A "Unique ID."
       3. Number each line below the heading. Note: The final number should be the total amount of claim lines you documented earlier in **Appendix A**.
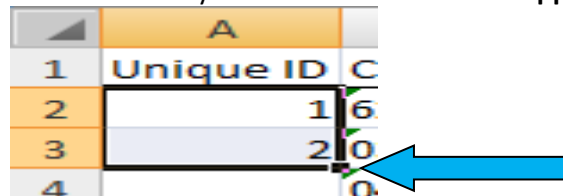

Shortcut: In the first empty cell below "Unique ID", type the number 1, then move to cell below and type 2. Highlight the two cells and move your cursor to the lower right corner of the selection, when your cursor changes to the "+" symbol, double click your mouse. The rows below should populate in numerical order.
   4. **SAVE YOUR WORK!**

*****Repeat for Each Strata*****

2. **RAT-STATS - Determine Sample Size:**
    a. Go to Heading "Sample Size Determination."
       i. "Variable Sample Size Determination."
       ii. "Stratified"
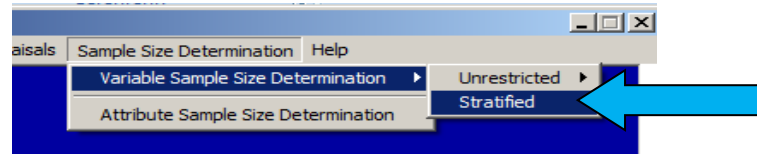
    b. Fill in the following information:
       i. "Number of strata" = 1
       ii. "Confidence Level" = Choose all
       iii. "Precision" = Choose all
       iv. Check "Total Sample Size Unknown"
       v. Output to "Text File and Screen"
       vi. Rat-Stats will prompt you, via a pop-up window, to where to save the document. Select the audit folder selected in step **A.2.a.vii**. For this example, the file would be saved as "*Forum Sample A.*"
       vii. Click "OK."

c. "Strata Information" window will pop-up, fill in the following information:
   i. Name the stratum being reviewed (For this example: Forum Sample A).
   ii. Enter the estimated mean from step A.2.b.iii.
   iii. Enter the estimated standard deviations from step A.2.b.iv.
   iv. Enter the universe size (equal to the number of claim lines in the stratum).
   v. Click "OK."
d. Document Results.
   i. Press "PrtScn" on your keyboard.
   ii. Open a blank Word Document.
   iii. Paste results.
   iv. Crop image to show the results box only. Click on photo that just pasted into the Word document. Go to Format tab and click on the Crop button.
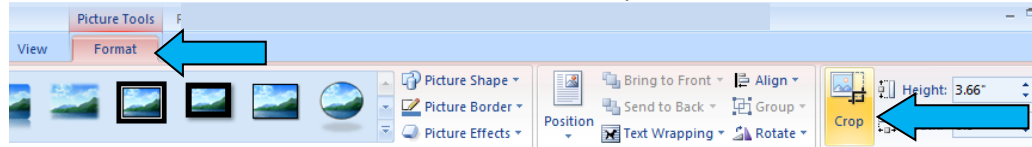
   v. Save Word document in the audit folder selected in **Step 2.a.vii**. For this example, save as "Forum Sample A screen shot."
   vi. Document in **Appendix A** the required sample for the chosen Confidence Level (90%) and Sample Precision (5%) number. This number will be your ***Sample Size***.
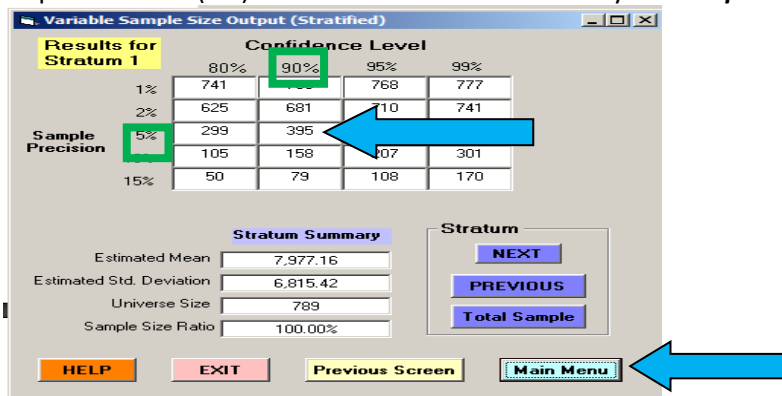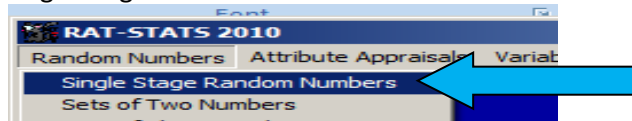

e. Click on "Main Menu" from the Rat-Stats pop-up menu.

Repeat for Each Strata

3. **RAT-STATs - Develop Random Order:**
   a. Go to Heading "Random Numbers."
   i. "Single Stage Random Numbers."

      ii. Check Yes and enter the seed number provided by CBH***
      <mark>Leave "No" checked for question regarding entering seed number</mark>
      iii. Name the document. For this example "RNG Forum Sample A"
   b. Enter quantity (or **Sample Size**) in "Sequential Order" box (*Number documented in step 3.d.vi*)
   c. Enter sampling frame: Low - 1 and High - Total Amount of Claims in Strata (*See **Appendix A***)
   d. Output to Excel File.
   i. Click on "File Name."

ii. Name the file "RNG Forum Sample A" and save it in the audit folder selected in step A.2.a.vii.

e. Select option "Continue."

f. Document Results.

  i. Press "PrtScn" on your keyboard.

  ii. Open the "Forum Sample A screen shot" Word document where you had saved the previous screen shot.

  iii. Paste Results and Crop image to show results box only (Click on photo that just pasted into the Word document. Go to Format tab and click the Crop button - *ref. Step 3.d.iv*)

  iv. ==Results box should equal the numbers you already have documented (i.e. universe and sample) and the seed number== – *Record the seed number!*

  v. **SAVE YOUR WORK!**

4. **Excel – Develop Sample**

  a. Open the Excel document that you just created.

  b. The "Value" column contains the random numbers you will use. (The total number of random numbers is equal to the number of your sample size.)

  c. Go back to your "Forum Sample A Dev" sheet.

    i. Highlight the row numbers on the left, up to the number that equals the number of your sample size +2. (i.e. if you have a sample size of 395, highlight row numbers beginning with 1 and going up to and including 397).

   ii. With the correct number of rows highlighted, right click and hit "insert rows."
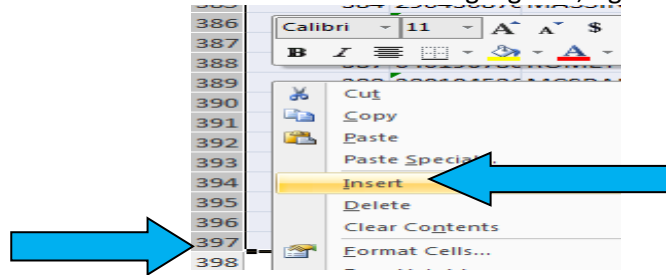
   iii. Ensure that both sections have the complete header row that begins with the header "Unique ID" in Column A.
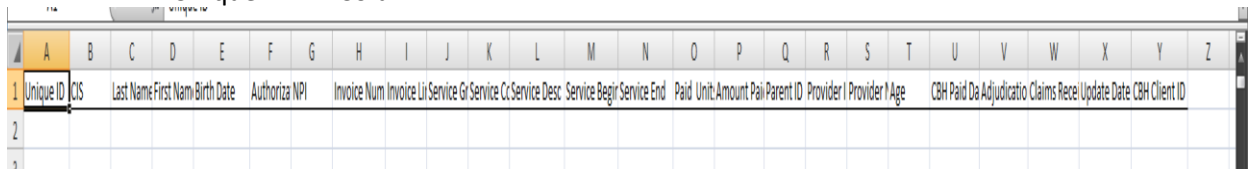
    iv. Go back to the Excel document containing the "Value" numbers. Highlight and copy the Value numbers.

    v. Go back to your "Forum Sample A Dev" sheet and Paste the "Value" numbers in the blank cells starting in Column A, Row 2 under the header "Unique ID", above the claims. If prompted – select "*shift cells left*."
    (There should be a blank line in between your Value numbers and claims data. Delete any excess rows that have been inserted to leave only one blank row.)

  d. Go to Data tab (at top of spreadsheet).

   i. Click on "Advanced" (in the sort and filter 'sub-tab').
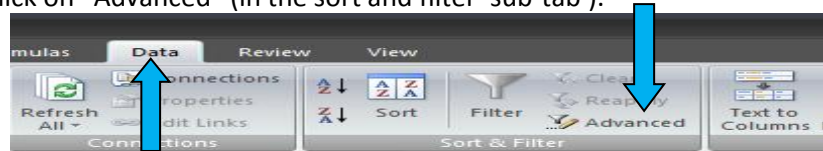
ii. Go to "List Range" and highlight original claim line numbers under the header "Unique ID." Make sure you also highlight the title "Unique ID."

iii. Go to "Criteria Range" box and highlight "Value" numbers beginning with the title "Unique ID" in Row 1.

iv. Check "Unique records only" and OK.
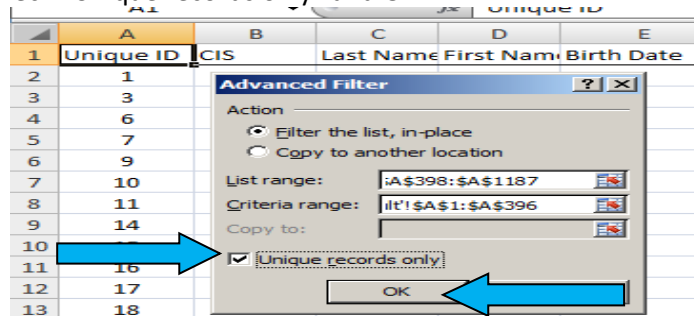
v. If done correctly, the original claim lines (the 2nd group of numbers) will turn "Blue" on the left side of the sheet by the row numbers. The blue claims will be your sample.
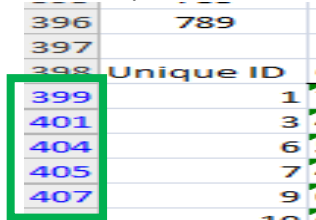
vi. From the "home" tab in Excel, select the "Find and Select" (binoculars icon) at the end of the home ribbon.

vii. Select "Go To Special."
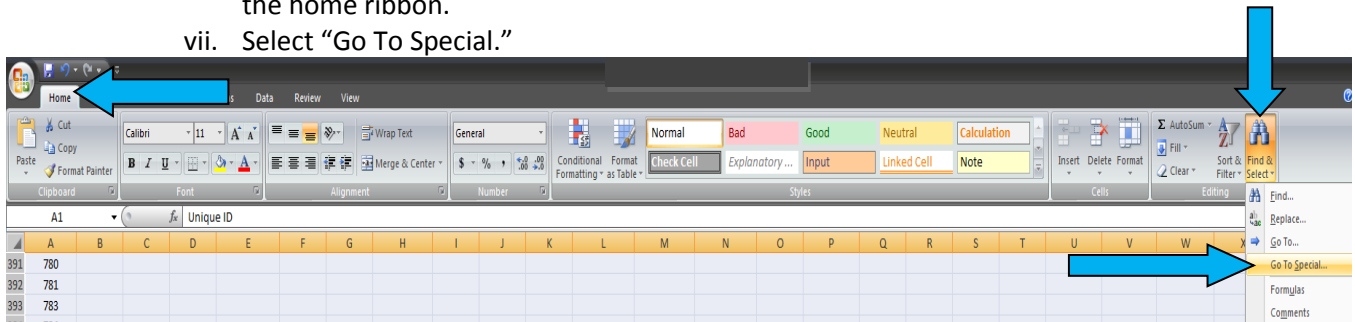
viii. When the pop up window appears - Click the button for "Visible Cells Only."

e. Copy claim lines visible into a new sheet (Claim lines should have BLUE Excel Row Numbers next to the Unique ID).

i. Click on the "Unique ID" header above the first claim line with a BLUE row number. Press and hold the control and shift keys, then use the "down" arrow to go to the bottom of claim data, then use the "right" arrow to go to the last column of claim data. Right Click and select Copy.

ii. Go to new sheet in workbook, with cursor in Cell A1, right click and select Paste.

iii. Entitle sheet "Forum Sample A."

iv. Prepare "Forum Sample A" for auditing.

v. **Save your work.**

Repeat this Process for all Service Types if using Stratified Sample

Appendix A

Name of Strata					
Total Number of Claim Lines in Strata (Universe Size)					
Mean					
Standard Deviation					
Seed Number					
Sample Size (Confidence Level 90%/Sample Precision 5%)					
Total $ Amount of Claims in Sample					
Total $ Variance Amount					
Error Rate					
Extrapolation Amount (Confidence Level 90%)					

Name of Strata					
Total Number of Claim Lines in Strata (Universe Size)					
Mean					
Standard Deviation					
Seed Number					
Sample Size (Confidence Level 90%/Sample Precision 5%)					
Total $ Amount of Claims in Sample					
Total $ Variance Amount					
Error Rate					
Extrapolation Amount (Confidence Level 90%)					