*Before, you start, read the following:*

* *There are 3 questions in this test. Read every question thoroughly before starting to solve it. This will knock out a lot of superfluous questions to your instructor.*
* *The first question is similar to the Big R auto dealership. You are putting in the data into a new Excel spreadsheet. You are doing the first problem using the new construc in excelt, table, and finishing it up with a pivot table.*
* *The first question has a 5 point extra credit. Do this only when you have finished the other parts of the test.*
* *The second question is similar to the Ian Fleming problem. It has you taking a word table and moving it into excel. The* ***It’s a hard day day*** *file**is a Microsoft word document.*
* *The second question should not have the new table construct as indicated in the first problem. You are to do this the old fashioned way using the subtotal button in the data ribbon.*
* *The third question uses an existing excel spreadsheet. Load this up to start the problem. You are to use the new table construct and finish this up with a pivot table*
* *Some of the questions ask for averages. You can use the =average() function or click the formulas ribbon and click the arrow for autosum and select average.*
* *The third problem asks you to take numbers and replace them with names in the band name column. Use the technique we did for changing the New York Highlanders to the NewYork Yankees.*
* *Finally, we are meeting next Thursday to discuss Powerpoint. Make sure you’re here that day.*

*1*

*30 pts.* I don’t know if you know it, but it is very expensive to insure art. First, you need to have several appraisers look at the art and give their estimates of value. There is no guarantee of uniformity and your insurance company will average the values presented.

*Notes on sending your instructor your finished (and unfinished) problems. Due to the difficulties in this lab, it would be preferable to Email the problems to me. I’ll announce the Email(s) address(es) in class, but at a minimum,* [*777rauer@voicenet.com*](mailto:777rauer@voicenet.com) *will do. Your problem should be an attachment to the Email and your subject should indicate your name and the problem number.*

Next, each piece of art starts with a 5,000 policy fee. Policy fee is another way of saying this is a fixed cost. The variable fee is the percentage amount of the value of the art that the insurance company charges. For the purposes of this test, this is 3.75%.

In addition, any collector with over 5 million in art value pays a special surcharge of 2% for that value above 5,000,000

Below is your instructor’s art collection. I have added commas to the values for clarity. When you put this into your spreadsheet, this version of Excel will accept numbers with commas or without.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Artist | Period | Name Of work | Appraisal Value 1 | Appraisal Value 2 | Appraisal Value 3 |
| Pablo Picasso | Cubist | Menu Of Els Quatre Gats | 80,000 | 85,000 | 75,000 |
| Rembrandt | Dutch/Flemish | The Music Party | 1,700,000 | 1,600,000 | 1,620,000 |
| Pablo Picasso | Cubist | Bull race | 400,000 | 425,000 | 432,000 |
| Anthony Van Dyke | Dutch/Flemish | Marchesa Balbi | 305,000 | 325,000 | 300,000 |
| Anthony Van Dyke | Dutch/Flemish | Self Portrait With a Sunflower | 440,000 | 475,000 | 450,000 |
| Pablo Picasso | Cubist | Harlequin With Guitar | 1,900,000 | 1,850,000 | 1,850,000 |
| Rembrandt | Dutch/Flemish | The Raising of Lazarus | 1,800,000 | 1,825,000 | 1,780,000 |
| Rembrandt | Dutch/Flemish | [The Abduction of Europa](http://en.wikipedia.org/wiki/Europa_(mythology)#.22The_Rape_of_Europa.22) | 1,525,000 | 1,500,000 | 1,500,000 |

Let’s use the first piece, by Pablo Picasso, to calculate the cost of insurance. 80000, 85000 and 75000 averages to 80000 (80000 is the average of 80000,85000 and 75000). 80000 multiplied by 3.75% indicates that the insurance itself would cost $3,000. With the policy fee of 5000, this would mean that the first piece would cost a total of $8000

1. First, create this table in Excel. There is no media to copy it from so you will have to do this by your keyboard. If doing something by keyboard, keep in mind that not everything needs to be included and you have the option of whether or not to use column 2, designated as period. In the end you will have a grid involving a header row on top, 8 data entries indicating the individual paintings and 5 or 6 columns (depending on whether you are entering period or not)
2. In class, we discussed and showed the new construct of excel, the table. Set up your grid so that it is such an excel table.
3. Add an additional column to this new table as we did in class for some of the problems. Remember, you can do this by use of the cursor that you will see at the bottom right of the table (the handle).
4. Using the explanation of the calculation highlighted in yellow and the example of the calculation also highlighted in yellow, calculate the insurance costs for each of the paintings. Use the new column as indicated in part C. Call this column **insurance costs**.
5. Notice that there are 3 artists your instructor collects. Create a pivot table that indicates the total insurance cost by artist.
6. Using your new pivot table, sort the pivot table so that the artist who costs the most as far as insurance is concerned is on top, the smallest below.
7. Autoformat your pivot table and use excel to draw a bar graph indicating the results of the pivot table.

Save to your Disk drive and Email this to me as indicated above

Extra Credit: 5 pts. Do this only if you are done with the rest of the test! There is one more part to the insurance costs and that is the surcharge for collections that are greater than 5 million in value. This is one such collection. Your pivot table is dealing with insurance costs and we need to do a calculation on the total of all the paintings’ value. So, return to the original table and set your table to show totals (remember, this is a check box in the design ribbon).

Determine the total value of the collection by totaling the value of the “values” column. In another cell, subtract 5 million from this amount and multiply this result by 2%. As an example, let’s assume that the total value was 8 million. This would be 3 million above the insurance company limit for surcharge. The surcharge would be 3 million multiplied by 2% or 6000. Add this cost to the total insurance costs of all the paintings to arrive at a total insurance cost.

2

*30pts.* Look at the Word document, **It’s a hard days day.doc** on the folder that was put on your desktop. Supposedly, it is a recap of the sales of albums world wide of the Beatles, the British rock group of the 60’s and 70’s. We want to determine

* *The total amount of sales per album world wide*
* *The total profit per album world wide*
* *The total number and total profit of all the albums*

You are to do the following using subtotal. You may remember that subtotals is an older way to resolve data and does not involve pivot tables. It also does not involve the new construct, tables, but it does involve preparation generally in the form of sorting. So, you cannot follow what was done in the first problem!

1. Notice this data is in a Microsoft word table. Move this table into a new excel spreadsheet. Modify the width of the columns in whatever way you are comfortable with to see all the information correctly.
2. To resolve this problem, you have to first determine the number of albums sold per location. Promos and returns are not considered sales. So looking at the first album, **please please me**, the number of albums sold would be 53589 – 4283 – 1785 = 47521. Since you are not in the table construct, you are going to have to copy this down the column.
3. We need to determine the profitability for each location and this is provided by the fact that each album is sold for $9.76. Multiply this number by the results you calculated in B for each location. Since you are not in the table construct, you are going to have to copy this down the column.
4. Now, we need to do some prep work to work this out. Prep work is a necessity in subtotals, it is not needed in pivot tables. To determine the total amount of sales for each album, the line items for a specific album must be displayed together (in other words, in order). Think about how to do this and do it on your spreadsheet.
5. Run subtotals to determine the profit of each album worldwide. When you are done you should be able to hit the control designated as 2 to the left of your spreadsheet to see the worldwide results for the 14 albums and the totals of all the albums as the 15th line.
6. In essence, you have grouping by rows. Group the columns so that when compressed the only 2 columns seen are album and profits (the last column you created in part C)
7. Create a bar graph displaying this information. Note: we do not want to show the last row indicating totals for all the albums so this should not have been selected for graphing.

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3

*40 pts.*The next problem’s subject would be completely natural to a native South Philadelphian as is your instructor – we are going to look at String bands. Your Instructor gets this stirring, about this time of year as he looks forward to the Mummers parade. On your machine is the excel file **bandaid for excel test**. Open it and you will see that there is a problem which you will have to resolve, but first

1. We are doing this problem by the new table construct and a combination of pivot tables and filter. So, we are first going to insert a table to encompass the data in Sheet1.
2. We need another column, so add another column to this table. You can use as indicated in the first problem
3. Now, look at the table. Apparently your instructor didn’t have time to replace the numbering system with band names. But he knows that you can do it and very easily. Similar to how we changed the New York Highlanders to the New York Yankees in class (use of filter and copy down), use the specifications below to correct the band name column. Use the table below to change the number to the band name

|  |  |  |  |
| --- | --- | --- | --- |
| 10 | Two Street | 15 | Durning |
| 11 | Broomall | 16 | Greater Kensington |
| 12 | Polish American | 17 | Avalon |
| 13 | Ferko | 18 | Quaker City |
| 14 | Greater Overbrook |  |  |

1. We need to determine the points won during each band’s performance. Notice for each band, marks for music, costume, performance and production are given. You have to calculate the final score (similar to the OFSFC problem). Calculate the weighted average for each line item by a weighted score of 40% for music, 20% for costume, 20% for performance and 20% for production.

Here’s an example: In the case of Fralinger in 2004, we have 40% \* 39.152 + 20% \* 19.603 + 20% \*19.523 + 20% \* 19.603 which equals 27.4066. Do this for all the bands and all the years. Call this new column **Total points**

We have two problems to resolve. First, what did each string band average as to points for the 3 years covered, 2002, 2003 and 2004. Second, as to the results only for 2004, creating a list, top to bottom of winners and losers.

1. First, let’s create a pivot table that averages the point totals of the 3 years for each string band. You should be able to do this by indicating band name as row labels and then using **total points** appropriately.
2. When you have this, sort them by best (most points) to last
3. Create a Pivot graph showing these results.

Now, do you remember in class that once a pivot table is set, you can manipulate the underlying table without affecting the pivot table. So, **let’s go back to the underlying table and do the following.**

1. Set the table to show only the results of `2004. This is done by filter
2. Sort this table again showing best to worst as far as total points for 2004 are concerned.
3. Group those columns which are not **Band name** or **total points** (only **band name** and **total points** should be visible)
4. Insert a bar graph showing the results of 2004.

Save to your Disk drive and Email this to me as indicated above