

## Chapter 4

### Doing Cool Stuff with Paste Special

**Summary:** Paste special is like the paste command, but with some extra twists. This tutorial will show you how to use paste special in Microsoft Excel for the following common tasks. The functionality in OpenOffice is basically identical, so you should be able to follow these directions.

#### What you will learn

1. Replacing a column or row of formulas with the values that the formulas produce.
2. Copying a pivot table to a new worksheet as a plain table.
3. Transposing the rows and columns of a worksheet.
4. Multiplying or dividing a range of values by another value.

**Task 1: Replacing a column or row of formulas with the values that the formulas produce.**

**Downloadable data:** You can download the sample data for this task [2015-combined-salary-seconded-utf8-en\\_3.xlsx](#). It contains the salaries of Ontario public servants who make more than \$100,000 a year. It is also the dataset that we'll be using for our live exercise based on a published story.

| A                             | B         | C          | D            | E                | F            | G   |
|-------------------------------|-----------|------------|--------------|------------------|--------------|---|
| Sector                        | Last name | First name | Salary Paid  | Taxable Benefits | Total Salary | Employer  |
| Other Public Sector Employers | Weisbrodt | Jorn       | \$207,692.37 | \$1,272.92       | \$208,965.29 | Toronto Festival of Arts, Culture and Creativity      |
| Other Public Sector Employers | Parlee    | Forrest    | \$108,709.89 | \$0.00           | \$108,709.89 | Mitacs Inc.   |
| Other Public Sector Employers | Wagner    | John Clyde | \$168,230.79 | \$867.92         | \$169,098.71 | Toronto Festival of Arts, Culture and Creativity      |
| Other Public Sector Employers | Yue       | Jenny      | \$114,158.53 | \$131.94         | \$114,290.47 | Colleges Ontario                                      |
| Other Public Sector Employers | Macdonald | Christine  | \$100,789.02 | \$0.00           | \$100,789.02 | Mitacs Inc.   |
| Other Public Sector Employers | Udovic    | Natasha    | \$129,807.63 | \$867.92         | \$130,675.55 | Toronto Festival of Arts, Culture and Creativity      |
| Other Public Sector Employers | Tanos     | Antonia    | \$102,222.20 | \$3,664.48       | \$105,886.68 | Toronto Organizing Committee for the 2015 Pan America |
| Universities                  | Webb      | Paul       | \$105,001.75 | \$622.01         | \$105,623.76 | King's University College                             |
| Colleges                      | Abbas     | Sadia      | \$107,970.20 | \$85.86          | \$108,056.06 | Algonquin College                                     |

In column F, we have added the values in columns D and E to obtain a total salary. By clicking on the first value in the column, we can see the formula in the formula bar.

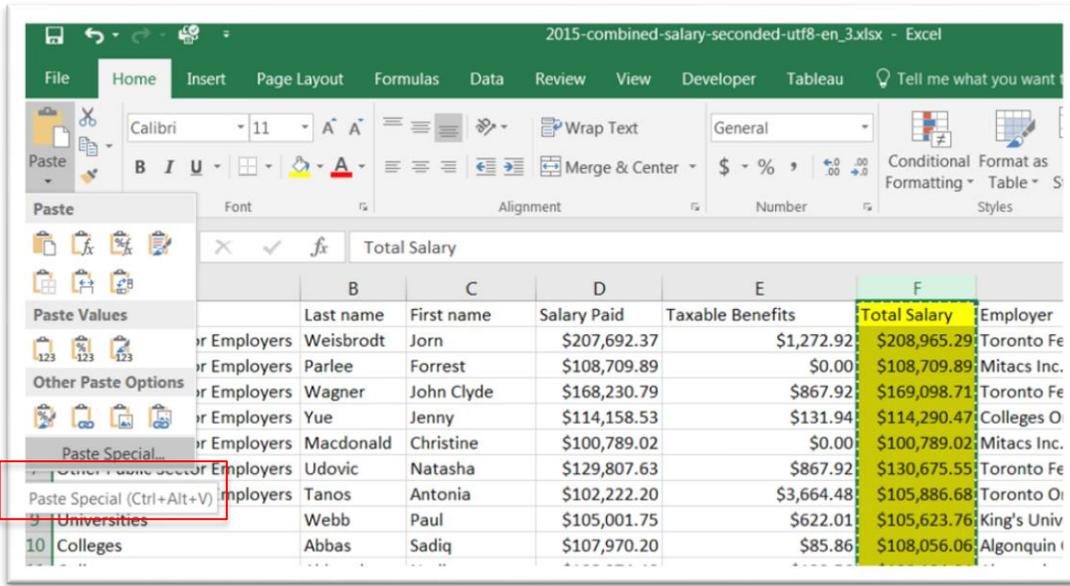
Let's say that we only wanted to preserve the values and get rid of the formula that created them. If you want to switch it to the underlying values calculated by the formula, it's really easy.

First, highlight the column of formulas.

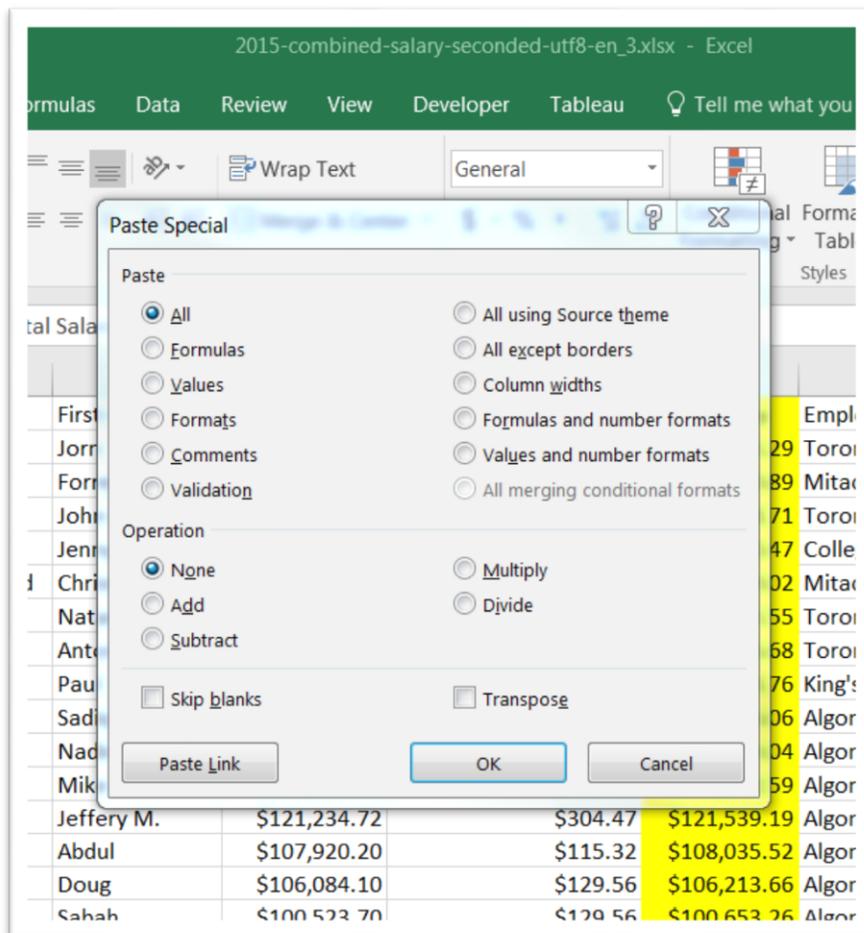
| A                               | B         | C          | D            | E                | F            |
|---------------------------------|-----------|------------|--------------|------------------|--------------|
| 1 Sector                        | Last name | First name | Salary Paid  | Taxable Benefits | Total Salary |
| 2 Other Public Sector Employers | Weisbrodt | Jorn       | \$207,692.37 | \$1,272.92       | \$208,965.29 |

Next, copy the highlighted column to the clipboard by using the keyboard shortcut <CTRL> C on a Windows PC or <CMD> C on a Mac, or by right clicking on the column (<CTRL> left click on a Mac) and choosing Copy from the popup menu.

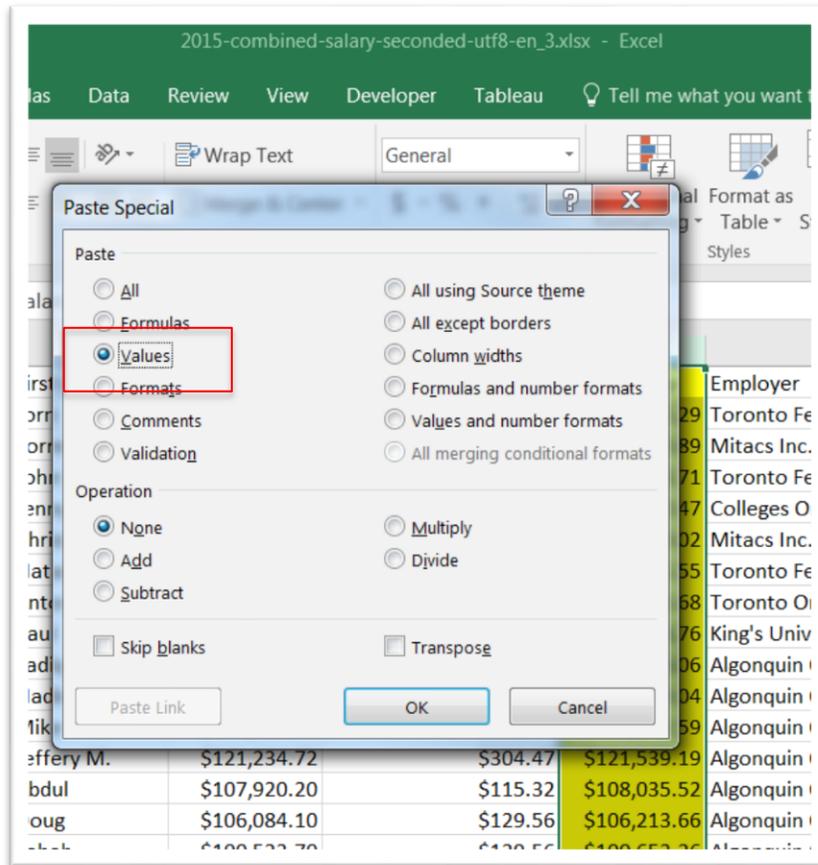
Once you have copied the column to the clipboard, choose Paste Special from the "paste" dropdown menu on the home ribbon of Excel. A dialogue box should open, like this one:



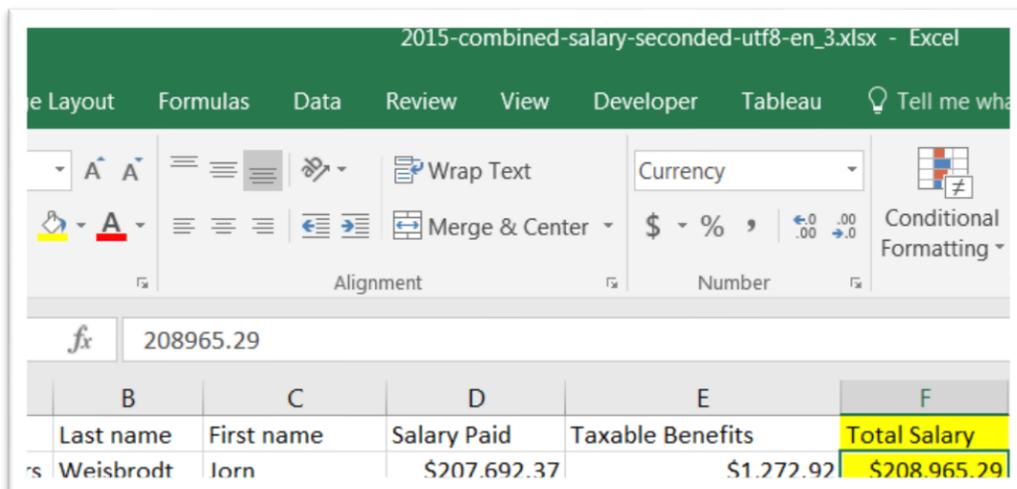
You can also right click on highlighted the column and choose Paste Special from the popup menu.



In the dialogue, in the Paste area, choose the “Values” radio button. If you wish to retain the number formatting, if you formatted your column or row as percentages or some other number format such as currency, choose the “Values and number formats” radio button. Then, click OK.

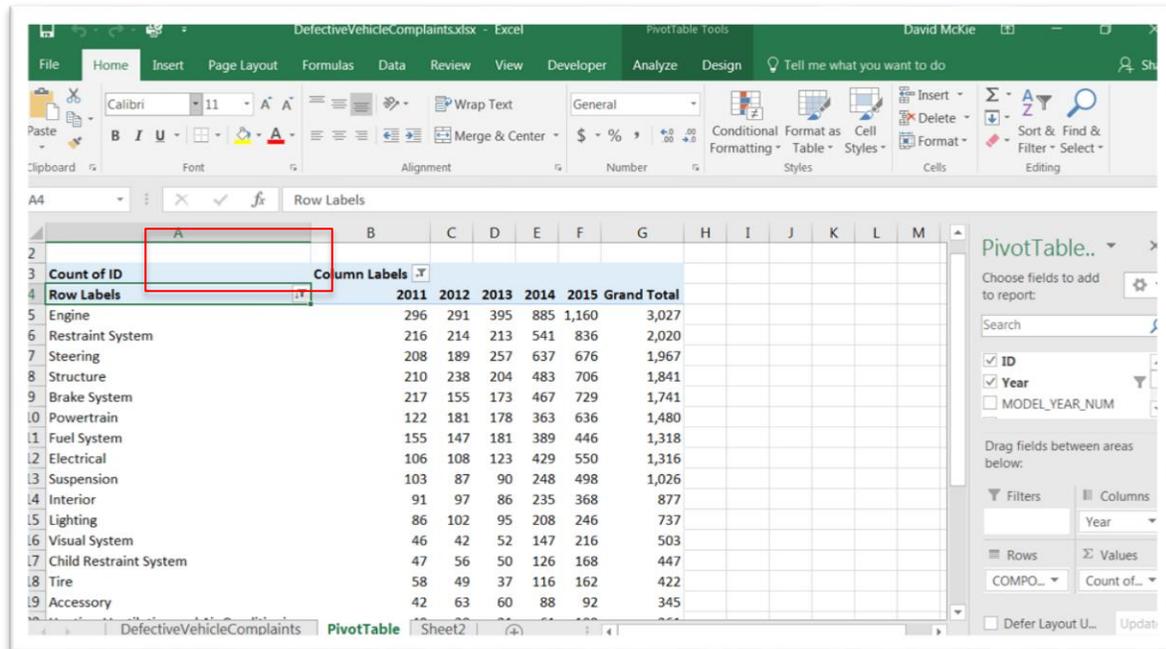


Your formulas have now been replaced by as the underlying values. So when you once again click on F2, you'll see the value in the formula bar, and not the formula  $\leq D2+E2 \gt$ .



## Task 2: Copying a pivot table to a new worksheet as a plain table.

**Downloadable data:** You can download the sample data for this task [here](#) and use the worksheet called PivotTable.



The screenshot shows an Excel spreadsheet with a PivotTable. The PivotTable is located in the range A4:G19. The PivotTable Fields task pane is visible on the right, showing the following configuration:

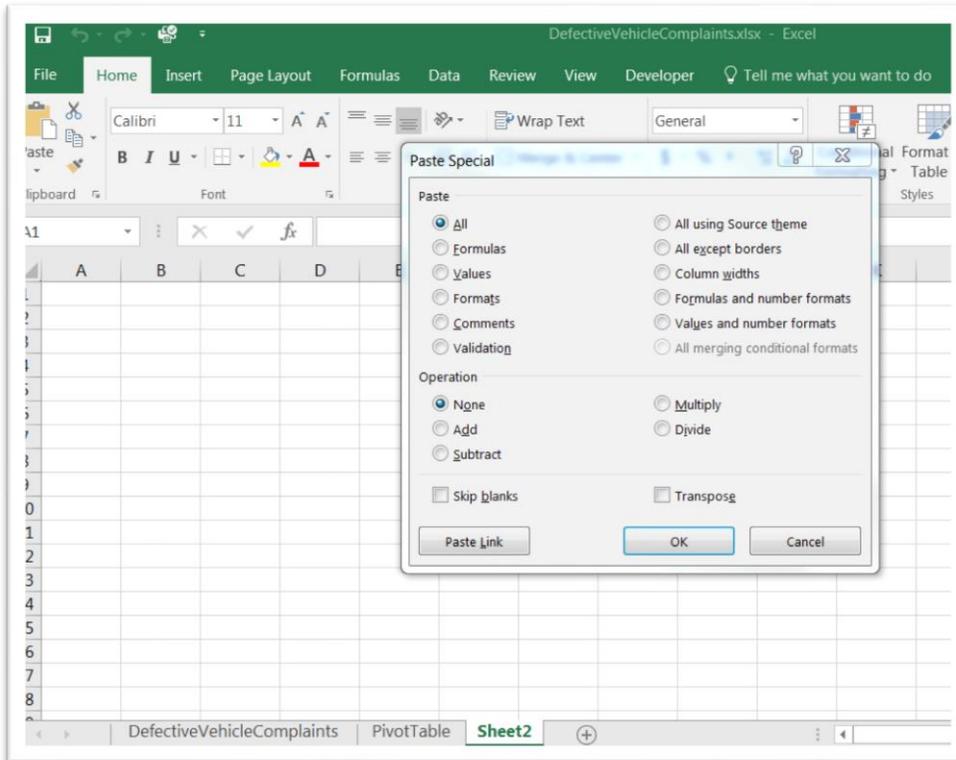
- Filters: None
- Columns: Year
- Rows: COMPO... (Component)
- Values: Count of...

| Count of ID            | 2011 | 2012 | 2013 | 2014 | 2015  | Grand Total |
|------------------------|------|------|------|------|-------|-------------|
| Engine                 | 296  | 291  | 395  | 885  | 1,160 | 3,027       |
| Restraint System       | 216  | 214  | 213  | 541  | 836   | 2,020       |
| Steering               | 208  | 189  | 257  | 637  | 676   | 1,967       |
| Structure              | 210  | 238  | 204  | 483  | 706   | 1,841       |
| Brake System           | 217  | 155  | 173  | 467  | 729   | 1,741       |
| Powertrain             | 122  | 181  | 178  | 363  | 636   | 1,480       |
| Fuel System            | 155  | 147  | 181  | 389  | 446   | 1,318       |
| Electrical             | 106  | 108  | 123  | 429  | 550   | 1,316       |
| Suspension             | 103  | 87   | 90   | 248  | 498   | 1,026       |
| Interior               | 91   | 97   | 86   | 235  | 368   | 877         |
| Lighting               | 86   | 102  | 95   | 208  | 246   | 737         |
| Visual System          | 46   | 42   | 52   | 147  | 216   | 503         |
| Child Restraint System | 47   | 56   | 50   | 126  | 168   | 447         |
| Tire                   | 58   | 49   | 37   | 116  | 162   | 422         |
| Accessory              | 42   | 63   | 60   | 88   | 92    | 345         |

Pivot tables are great, but they eat up memory if you have a lot of them open at once. Besides, once you've finished your pivot table, you may be most interested in the results. Making a copy of the table as a plain text table is a great way to capture your results, perhaps for further calculations.

Copy the table, and go to the next empty worksheet.

As we did in task one, get the paste special dialogue box.



Select Values, and then the OK tab.

The image shows a PivotTable in Microsoft Excel. The PivotTable is located on 'Sheet2' and has the following data:

| Count of II Column Labels | 2011 | 2012 | 2013 | 2014 | 2015 | Grand Total |
|---------------------------|------|------|------|------|------|-------------|
| Row Label                 | 2011 | 2012 | 2013 | 2014 | 2015 | Grand Total |
| Engine                    | 296  | 291  | 395  | 885  | 1160 | 3027        |
| Restraint S               | 216  | 214  | 213  | 541  | 836  | 2020        |
| Steering                  | 208  | 189  | 257  | 637  | 676  | 1967        |
| Structure                 | 210  | 238  | 204  | 483  | 706  | 1841        |
| Brake Syst                | 217  | 155  | 173  | 467  | 729  | 1741        |
| Powertrair                | 122  | 181  | 178  | 363  | 636  | 1480        |
| Fuel System               | 155  | 147  | 181  | 389  | 446  | 1318        |
| Electrical                | 106  | 108  | 123  | 429  | 550  | 1316        |
| Suspensior                | 103  | 87   | 90   | 248  | 498  | 1026        |
| Interior                  | 91   | 97   | 86   | 235  | 368  | 877         |
| Lighting                  | 86   | 102  | 95   | 208  | 246  | 737         |
| Visual Syst               | 46   | 42   | 52   | 147  | 216  | 503         |
| Child Restr               | 47   | 56   | 50   | 126  | 168  | 447         |
| Tire                      | 58   | 49   | 37   | 116  | 162  | 422         |

Not only does the paste special, get rid of the formula, but it also gets rid of the formatting. So we have to clean up this table by deleting the first three rows, and re-naming column A to something that makes more sense like “Component System”.

|    | A                                    | B    | C    | D    | E    | F    | G           | H |
|----|--------------------------------------|------|------|------|------|------|-------------|---|
| 1  | Component System                     | 2011 | 2012 | 2013 | 2014 | 2015 | Grand Total |   |
| 2  | Engine                               | 296  | 291  | 395  | 885  | 1160 | 3027        |   |
| 3  | Restraint System                     | 216  | 214  | 213  | 541  | 836  | 2020        |   |
| 4  | Steering                             | 208  | 189  | 257  | 637  | 676  | 1967        |   |
| 5  | Structure                            | 210  | 238  | 204  | 483  | 706  | 1841        |   |
| 6  | Brake System                         | 217  | 155  | 173  | 467  | 729  | 1741        |   |
| 7  | Powertrain                           | 122  | 181  | 178  | 363  | 636  | 1480        |   |
| 8  | Fuel System                          | 155  | 147  | 181  | 389  | 446  | 1318        |   |
| 9  | Electrical                           | 106  | 108  | 123  | 429  | 550  | 1316        |   |
| 10 | Suspension                           | 103  | 87   | 90   | 248  | 498  | 1026        |   |
| 11 | Interior                             | 91   | 97   | 86   | 235  | 368  | 877         |   |
| 12 | Lighting                             | 86   | 102  | 95   | 208  | 246  | 737         |   |
| 13 | Visual System                        | 46   | 42   | 52   | 147  | 216  | 503         |   |
| 14 | Child Restraint System               | 47   | 56   | 50   | 126  | 168  | 447         |   |
| 15 | Tire                                 | 58   | 49   | 37   | 116  | 162  | 422         |   |
| 16 | Accessory                            | 42   | 63   | 60   | 88   | 92   | 345         |   |
| 17 | Heating, Ventilation and Air Conditi | 40   | 30   | 21   | 61   | 109  | 261         |   |
| 18 | Defect Investigations - Other        | 84   | 26   | 26   | 17   | 28   | 181         |   |

That’s better. But we still have a bit of clean up left. Delete column G, the grand total column, and the grand total row 25 at the bottom. Since we’ll be doing our own calculations, we don’t need the totals.

File Home Insert Page Layout Formulas Data Review

Clipboard Font Alignment

Calibri 11 A A

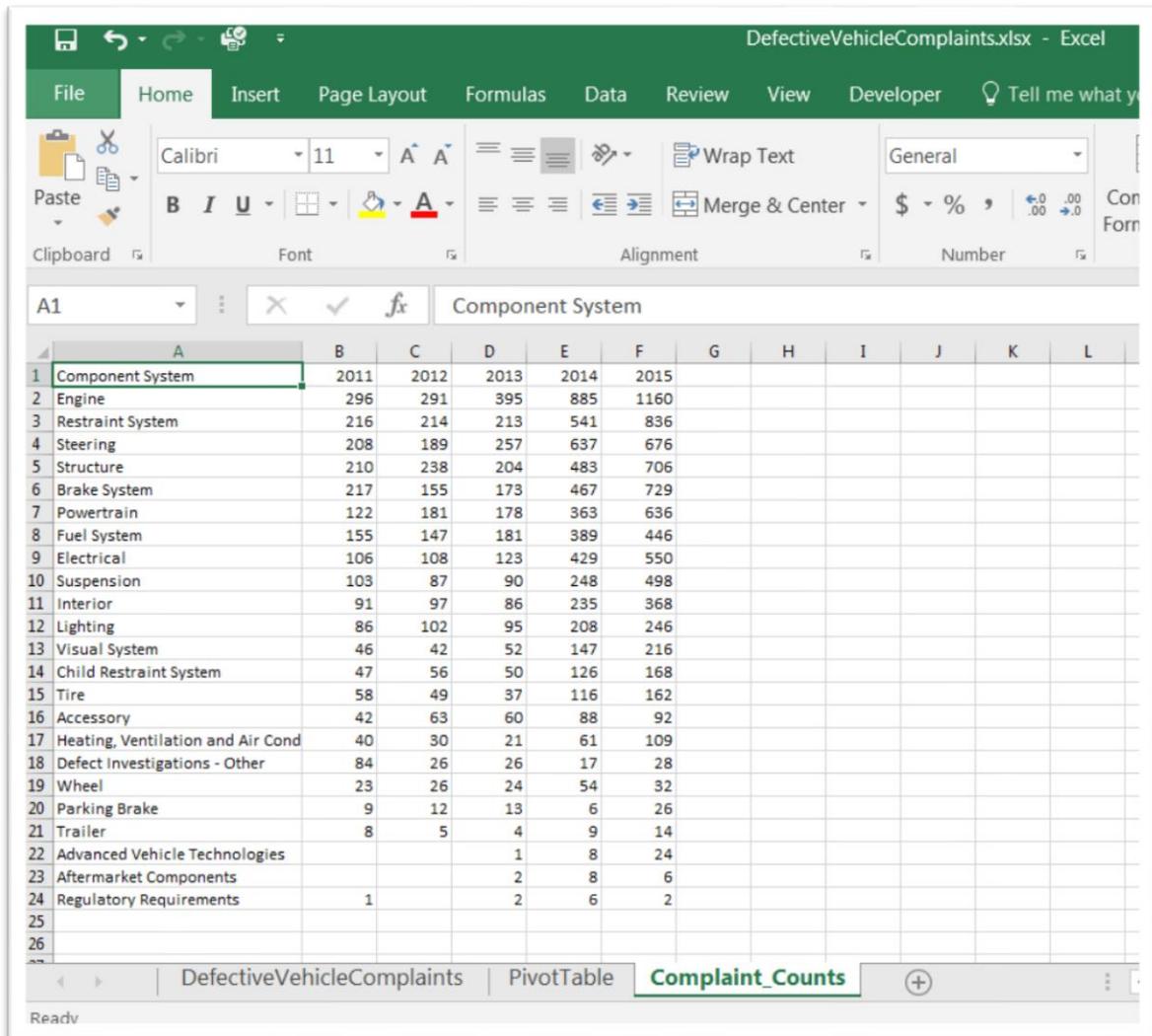
B I U

Component System

|    | A                                 | B    | C    | D    | E    | F    | G |
|----|-----------------------------------|------|------|------|------|------|---|
| 1  | Component System                  | 2011 | 2012 | 2013 | 2014 | 2015 |   |
| 2  | Engine                            | 296  | 291  | 395  | 885  | 1160 |   |
| 3  | Restraint System                  | 216  | 214  | 213  | 541  | 836  |   |
| 4  | Steering                          | 208  | 189  | 257  | 637  | 676  |   |
| 5  | Structure                         | 210  | 238  | 204  | 483  | 706  |   |
| 6  | Brake System                      | 217  | 155  | 173  | 467  | 729  |   |
| 7  | Powertrain                        | 122  | 181  | 178  | 363  | 636  |   |
| 8  | Fuel System                       | 155  | 147  | 181  | 389  | 446  |   |
| 9  | Electrical                        | 106  | 108  | 123  | 429  | 550  |   |
| 10 | Suspension                        | 103  | 87   | 90   | 248  | 498  |   |
| 11 | Interior                          | 91   | 97   | 86   | 235  | 368  |   |
| 12 | Lighting                          | 86   | 102  | 95   | 208  | 246  |   |
| 13 | Visual System                     | 46   | 42   | 52   | 147  | 216  |   |
| 14 | Child Restraint System            | 47   | 56   | 50   | 126  | 168  |   |
| 15 | Tire                              | 58   | 49   | 37   | 116  | 162  |   |
| 16 | Accessory                         | 42   | 63   | 60   | 88   | 92   |   |
| 17 | Heating, Ventilation and Air Cond | 40   | 30   | 21   | 61   | 109  |   |
| 18 | Defect Investigations - Other     | 84   | 26   | 26   | 17   | 28   |   |
| 19 | Wheel                             | 23   | 26   | 24   | 54   | 32   |   |
| 20 | Parking Brake                     | 9    | 12   | 13   | 6    | 26   |   |
| 21 | Trailer                           | 8    | 5    | 4    | 9    | 14   |   |
| 22 | Advanced Vehicle Technologies     |      |      | 1    | 8    | 24   |   |
| 23 | Aftermarket Components            |      |      | 2    | 8    | 6    |   |
| 24 | Regulatory Requirements           | 1    |      | 2    | 6    | 2    |   |
| 25 |                                   |      |      |      |      |      |   |
| 26 |                                   |      |      |      |      |      |   |

DefectiveVehicleComplaints PivotTable Sheet2

Now rename the worksheet “Complaint\_Counts”.



Now we can begin using the skills we learned in the “Calculating Rates and Percentages in a Spreadsheet tutorial.

The paste-special command is commonly, especially with pivot tables because it allows us to continue our analysis with quick and easy calculations which can then be sorted and filtered, something that is not possible in pivot tables.

### Task 3: Transposing the rows and columns of a worksheet.

Sometimes we get tables that are not conducive to easy analysis. For instance, the table may have dozens of columns and only a few rows. In this instance, it would be easier to summarize the information using the techniques that we’ve learned so far by turning the columns into rows and rows into columns. To do this, we use the make

more sense to the paste special “transpose” option. This converts a vertical range of cells to horizontal and vice-versa.

Let’s see how this works using the example above. Highlight the table.

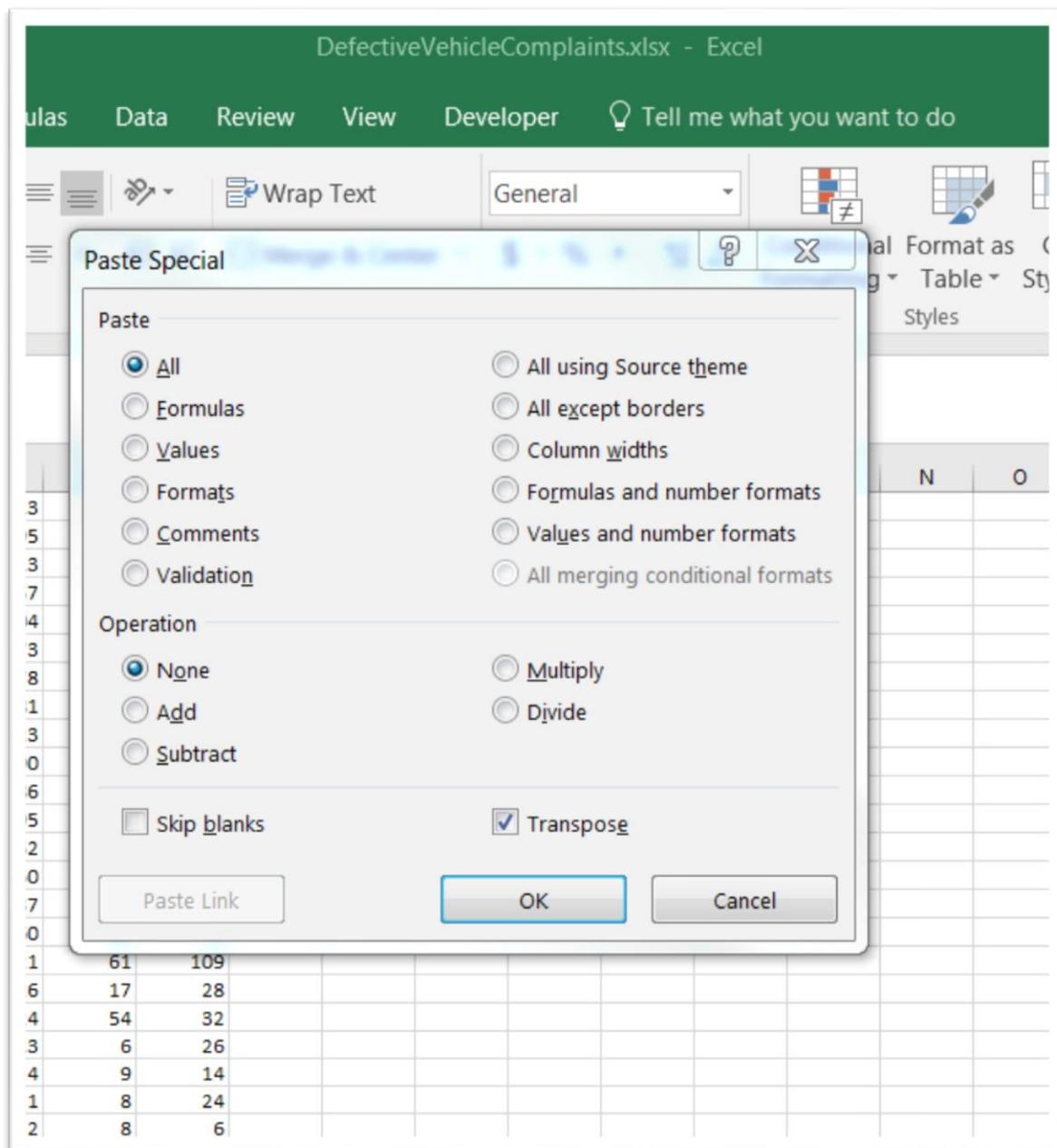
The screenshot shows the Microsoft Excel interface with the following data in the PivotTable:

| Component System                  | 2011 | 2012 | 2013 | 2014 | 2015 |
|-----------------------------------|------|------|------|------|------|
| Engine                            | 296  | 291  | 395  | 885  | 1160 |
| Restraint System                  | 216  | 214  | 213  | 541  | 836  |
| Steering                          | 208  | 189  | 257  | 637  | 676  |
| Structure                         | 210  | 238  | 204  | 483  | 706  |
| Brake System                      | 217  | 155  | 173  | 467  | 729  |
| Powertrain                        | 122  | 181  | 178  | 363  | 636  |
| Fuel System                       | 155  | 147  | 181  | 389  | 446  |
| Electrical                        | 106  | 108  | 123  | 429  | 550  |
| Suspension                        | 103  | 87   | 90   | 248  | 498  |
| Interior                          | 91   | 97   | 86   | 235  | 368  |
| Lighting                          | 86   | 102  | 95   | 208  | 246  |
| Visual System                     | 46   | 42   | 52   | 147  | 216  |
| Child Restraint System            | 47   | 56   | 50   | 126  | 168  |
| Tire                              | 58   | 49   | 37   | 116  | 162  |
| Accessory                         | 42   | 63   | 60   | 88   | 92   |
| Heating, Ventilation and Air Cond | 40   | 30   | 21   | 61   | 109  |
| Defect Investigations - Other     | 84   | 26   | 26   | 17   | 28   |
| Wheel                             | 23   | 26   | 24   | 54   | 32   |
| Parking Brake                     | 9    | 12   | 13   | 6    | 26   |
| Trailer                           | 8    | 5    | 4    | 9    | 14   |
| Advanced Vehicle Technologies     |      |      | 1    | 8    | 24   |
| Aftermarket Components            |      |      | 2    | 8    | 6    |
| Regulatory Requirements           | 1    |      | 2    | 6    | 2    |

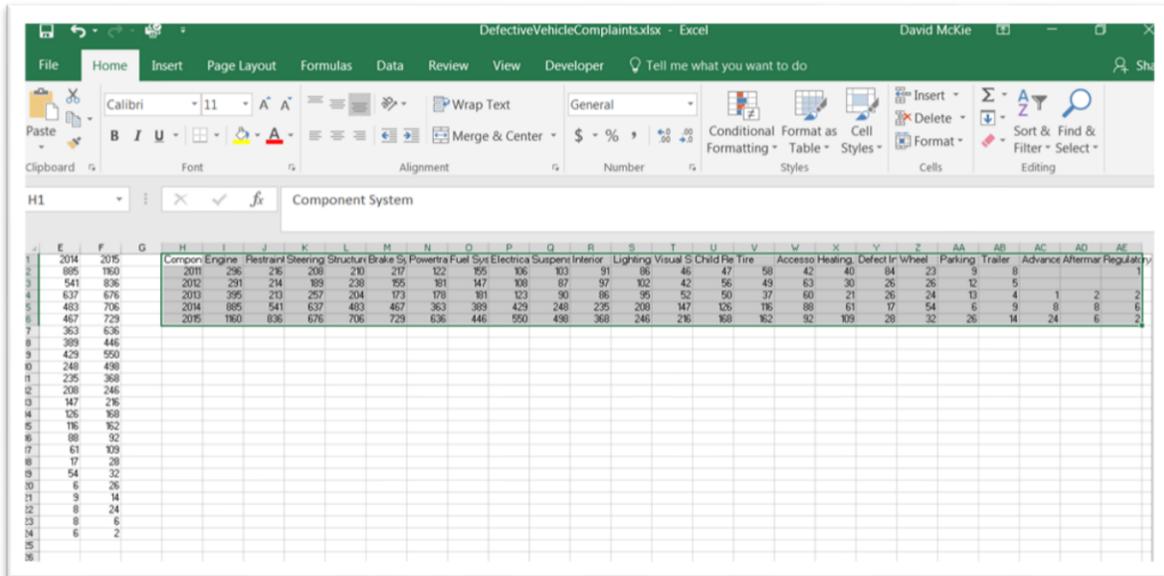
Now copy it.



Select the “Transpose option at the bottom.



Select the OK tab.



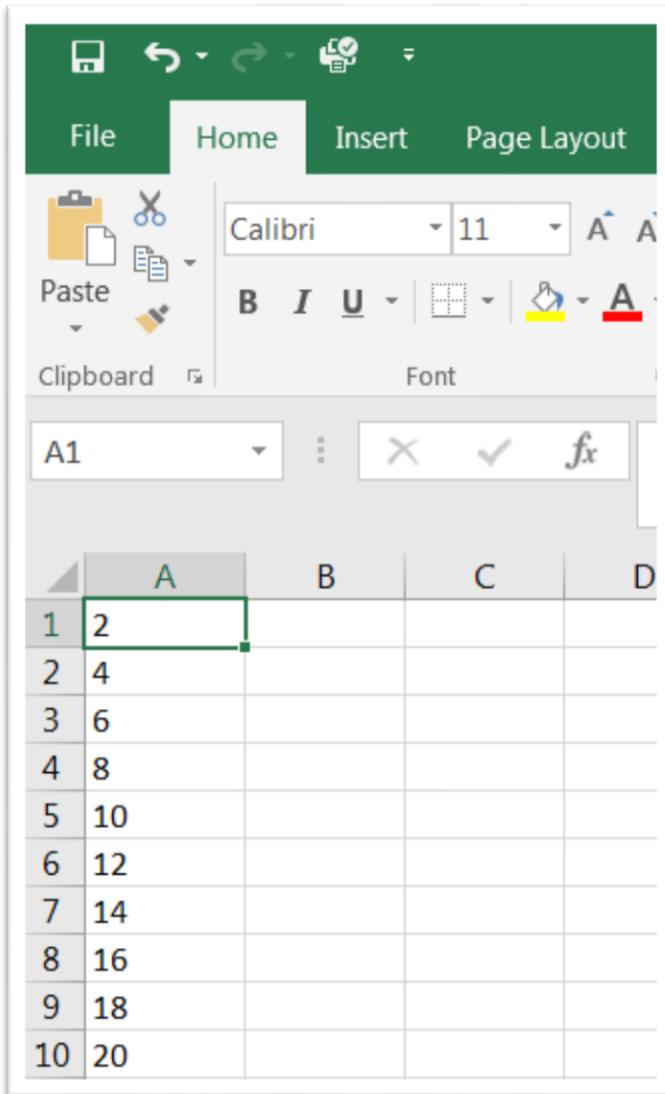
The order has been switched.

#### Task 4; Multiplying or dividing a range of values by another value.

As we've seen up until now, paste special is versatile, allowing you to make routine changes to your data. It also comes in handy when your spreadsheet has numbers that are actually text.

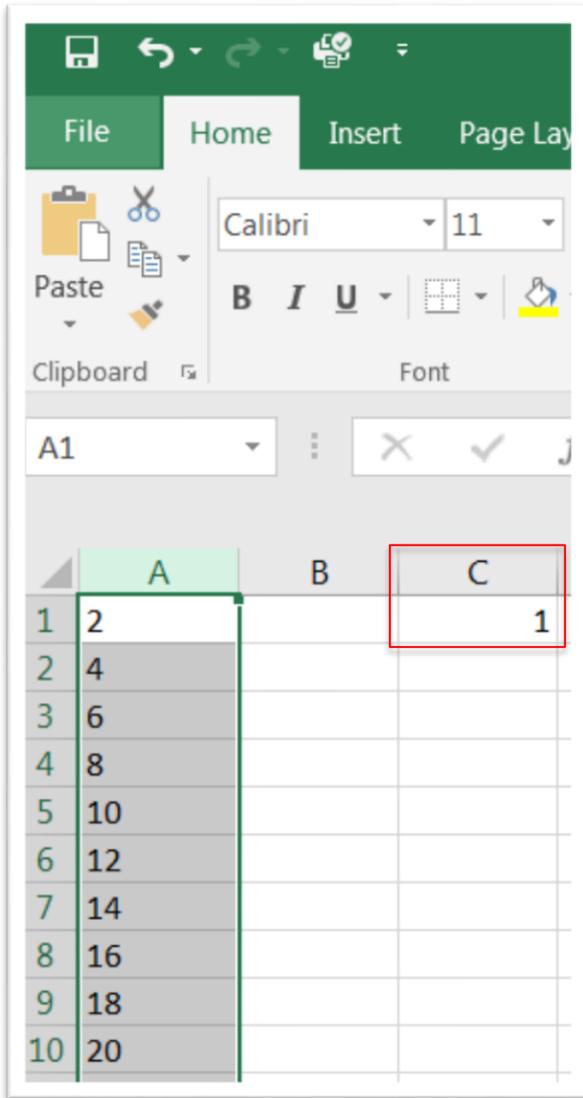
This is problematic because a spreadsheet can't perform math on values it reads as text. You can sum the number of fines, count the number of inspections, or calculate the per cent increases.

This is another instance where paste special comes in handy. You can often convert the text to numbers by placing the number "1" in an empty cell, and selecting and copying it. So let's look at an example below.

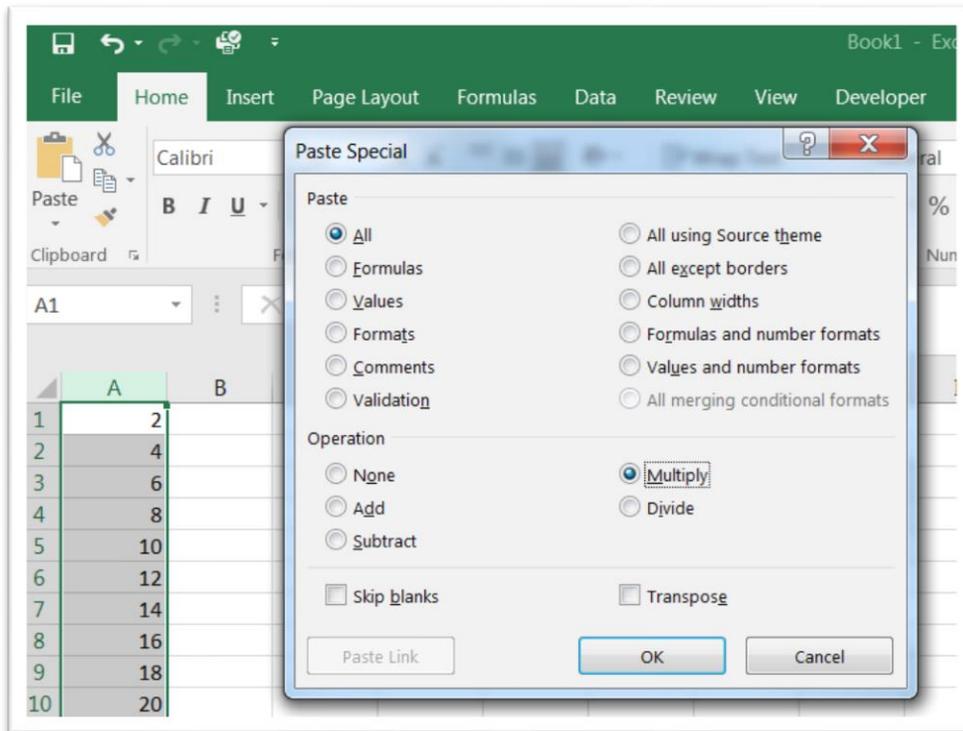
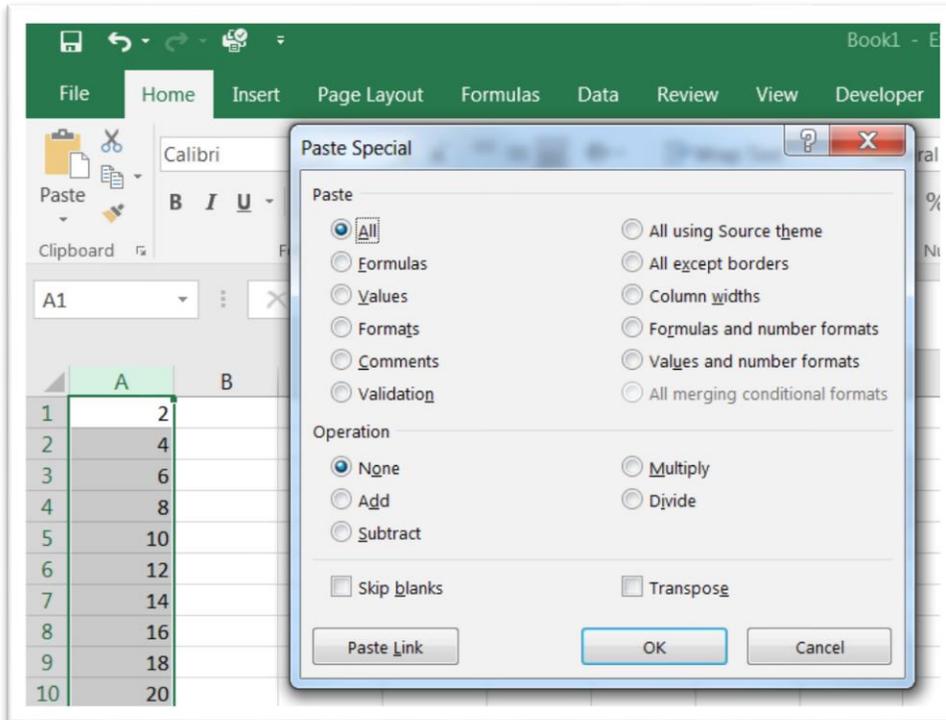


The text is contained in column A. We know this because they're justified to the left. We want to convert them to numbers. To do this, place the number "1" in cell C1.

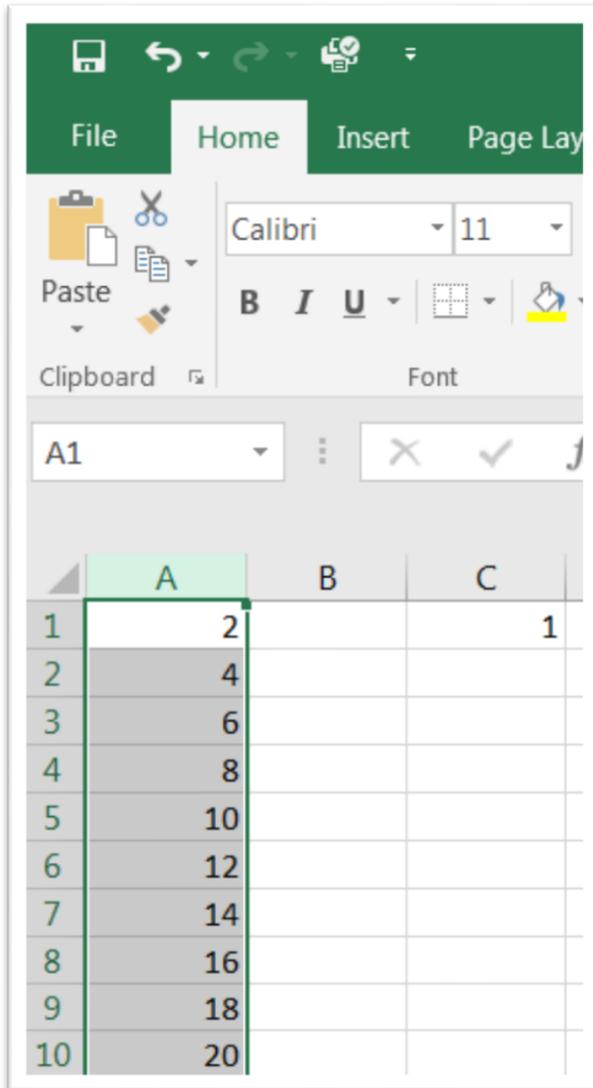
Copy it, and then highlight column A.



Obtain the paste-special dialogue box using the steps we used in the previous tasks.



Choose the “Multiply” from the paste special dialogue box, and then the OK tab.



Now the numbers are actually numbers, allowing us to continue with our analysis.

Paste special is a very useful and versatile command, which makes it possible to conduct quick calculations that count, sum and calculate per cent changes.