

# Sum Product

NEWSLETTER #51 - January 2017

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## Looking for a life more ordinary?

Maybe you'll have to wait for Microsoft to invent the **MEDIOCRE** function (although we have certainly come across some models that fit that bill...), but we do focus on some decidedly **AVERAGE**-looking functions this month.

This month, we have two events to announce: our very own Unlock Excel is coming to Australia and New Zealand, whilst our sister convention, the Amsterdam Excel Summit reconvenes too. There will be more announcements down the track – watch out London and New York!

With the usual Power Query Pointers, the A to Z of Excel Functions and a Keyboard Shortcuts session that's sure to be a pane, there should be something for everybody!

Until next month.

*Liam Bastick*, Managing Director, SumProduct



## Unlock Excel

At last! We have an announcement. Together with CPA Australia, SumProduct is proud to announce the Excel MVP conference is returning in 2017 to Australia and New Zealand. Previously known as the Excel Summit South, it's being re-branded as:

**UNLOCK EXCEL**  
POWERED FOR ACCOUNTING AND FINANCE

**MELBOURNE** 1 – 2 MAY 2017  
**BRISBANE** 4 – 5 MAY 2017  
**SYDNEY** 8 – 9 MAY 2017  
**AUCKLAND** 11 – 12 MAY 2017

Access seven of the world's leading Excel gurus, named Microsoft's Most Valuable Professionals, over two captivating days and learn how to unlock the true potential of Excel.

Discover how advancing your Excel knowledge can help you stand out from the crowd and achieve accounting and financial excellence.

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[cpaaustralia.com.au/unlockexcel](http://cpaaustralia.com.au/unlockexcel)

BE HEARD.  
BE RECOGNISED.

That's right: together with CPA Australia, we're giving you access to training by seven of the world's leading Excel gurus (our own Liam Bastick, as well as Chandoo, Roger Govier, Inge Hawighorst, Jon Peltier, Ken Puls and Mynda Treacy), Microsoft Most Valuable Professionals, so you can learn to unlock the true potential of your data.

Over two captivating days, discover how advancing your Excel knowledge

can help you stand out from the crowd and achieve accounting and financial excellence.

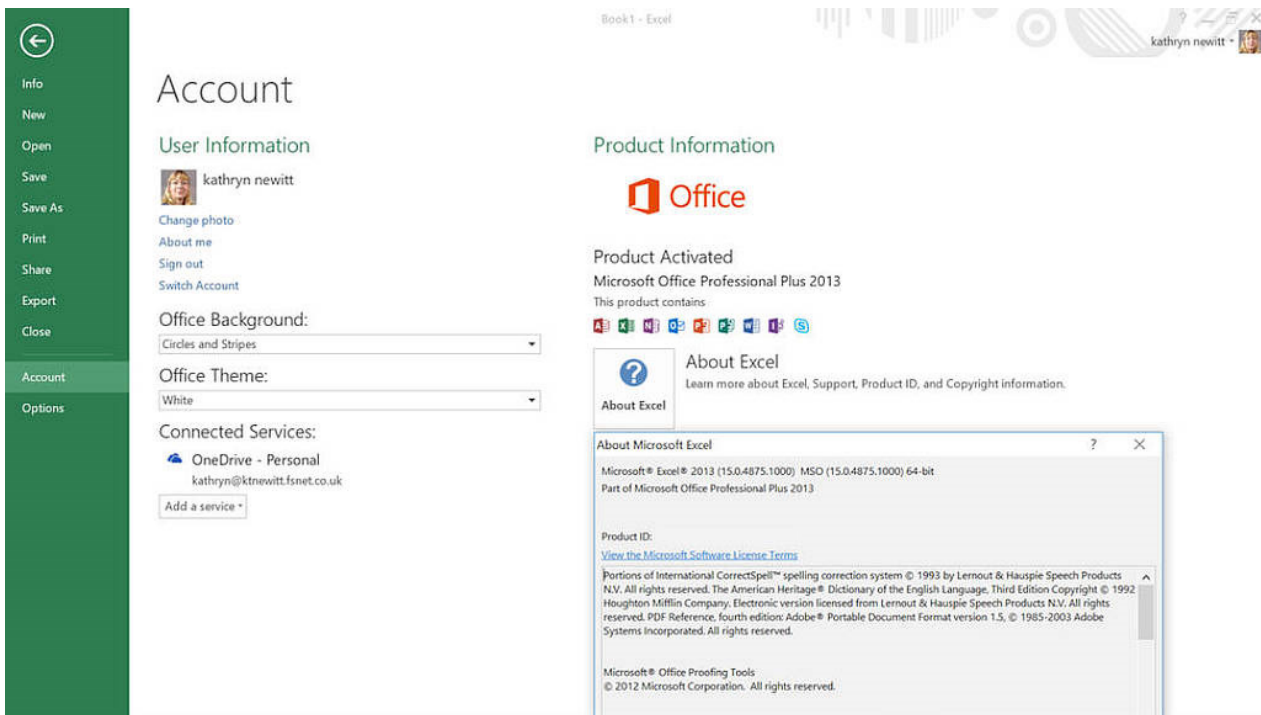
Earlybird prices are available right now. For more details, you may view the full program and book at [www.cpaaustralia.com.au/unlockexcel](http://www.cpaaustralia.com.au/unlockexcel). Hope to see you there!

# Power Query Pointers

Each month we'll reproduce one of our articles on Power Query (Excel 2010 and 2013) / Get & Transform (Excel 2016) from [www.sumproduct.com/blog](http://www.sumproduct.com/blog). If you wish to read more in the meantime, simply check out our Blog section each Wednesday.

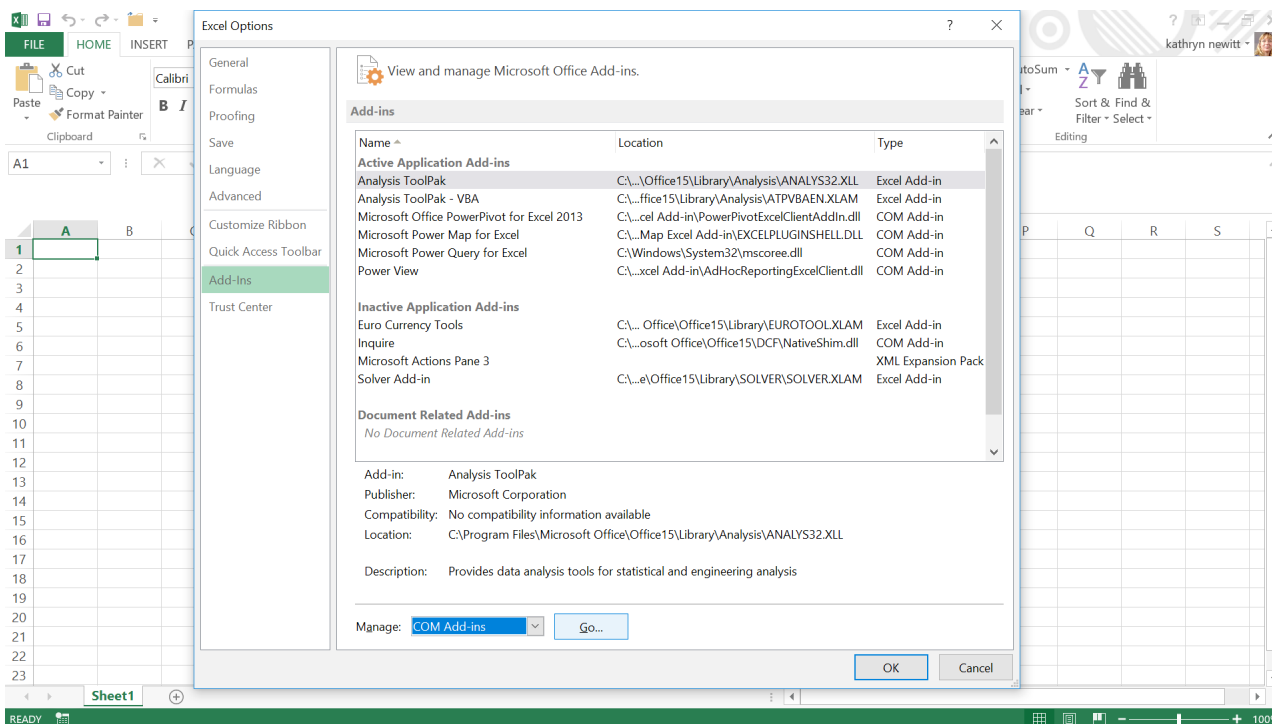
Power Query is a free add-in ETL (extract, transform and load) tool for users of Excel 2010 (Professional Plus with Software Assurance version only) and 2013 (all versions), where it has its own place on the Ribbon, and is now fully integrated into Excel 2016, where it can be found on the 'Data' tab under 'Get & Transform'. So far Power Query is only available for Windows users.

Users of Excel 2016 will have Power Query by default. Users of Excel 2010 and 2013 can download Power Query from the Microsoft website. Before downloading, we need to know the bit version of the installed Excel, which will either be 32-bit (x86) or 64-bit (x64). The information about the version of Excel and the bit version can be found on the File tab of Excel 2010 in the help section. In Excel 2013, the information we need is in the Account section of the File tab, under the 'About Excel' button.



Armed with the version and bit version, the country specific Microsoft download page is easy to navigate.

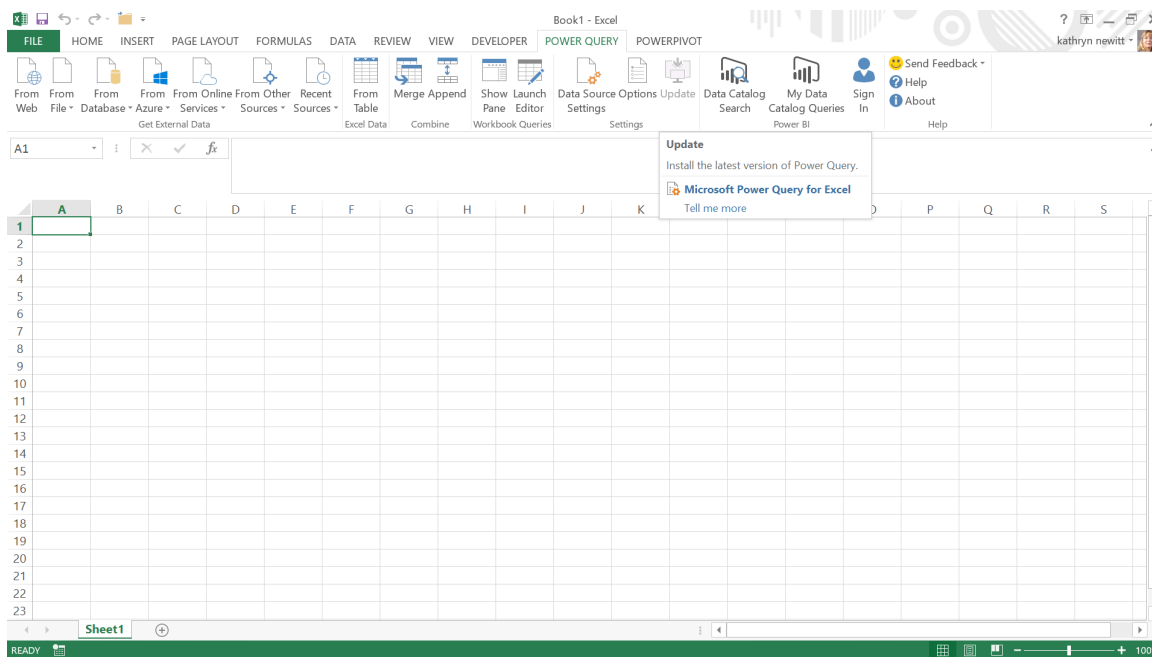
Once installed, all that remains is to make sure that the Excel Options on the File tab are configured to allow Power Query to be accessed. On the Add-ins section of Excel Options, the 'Manage' drop-down allows 'COM Add-ins' to be selected:



The sub-screen that pops up enables available COM add-ins to be activated, and this sub-screen is the place to go if the Power Query tab ever 'disappears' (it can happen)!

Once Power Query is installed, be aware that Microsoft often releases updates, usually on a monthly basis – try searching ‘updates for Get & Transform in Excel 2016 and the Power Query add-in’ to see the latest updates available. Depending on how Windows is configured, notifications for Power Query can appear when Excel is opened. There

is also an in-screen Update feature which can be viewed and activated from within Excel on the Power Query tab (or in the Get and Transform tab for Excel 2016). There will be a requirement to close and reopen Excel in order to complete most updates.



## The A to Z of Excel Functions: AVEDEV

We thought **AVEDEV** was an Indian cricket captain from the 1980's. Apparently not. However, the definition of this statistical function may knock you for six: it returns the average of the absolute deviations of data points from their mean, *i.e.* **AVEDEV** measures the variability in a data set.

It's not quite as complicated as it sounds. If you have a set of numbers and calculated their average – the **mean** – and then for each value, took the average of how far each value was from the average (ignoring whether the distance was positive or negative), you would calculate this value. It's not as statistically robust as calculating the standard deviation, but it is probably a better understood measure.

The **AVEDEV** function employs the following syntax to operate:

**AVEDEV(number1, [number2], ...)**

The **AVEDEV** function has the following arguments:

- **number1, number2, ...:** **number1** is always required, but subsequent numbers are optional. The function takes between one and 255 arguments for which you wish the average of the absolute deviations. You can also use a single array or a reference to an array instead of arguments separated by commas assuming this is your function delimiter.

It should be further noted that:

- **AVEDEV** is influenced by the unit of measurement in the input data
- Arguments must either be numbers or be names, arrays, or references that contain numbers
- Logical values and text representations of numbers that you type directly into the list of arguments are counted
- If an array or reference argument contains text, logical values, or empty cells, those values are ignored; however, cells with the value zero are included
- The equation for average deviation is:

$$\frac{1}{n} \sum |x - \bar{x}|$$

It's easier to follow if you work your way through the following example:

	A	B	C	D
1		Values	Difference from Mean	Formula
2		4	0.857143	=ABS(B2-\$B\$9)
3		5	0.142857	=ABS(B3-\$B\$9)
4		6	1.142857	=ABS(B4-\$B\$9)
5		7	2.142857	=ABS(B5-\$B\$9)
6		5	0.142857	=ABS(B6-\$B\$9)
7		4	0.857143	=ABS(B7-\$B\$9)
8		3	1.857143	=ABS(B8-\$B\$9)
9	Average	4.857143	1.020408	=AVERAGE(C2:C8)
10				
11		AVEDEV	1.020408	=AVEDEV(B2:B8)
12				

## The A to Z of Excel Functions: AVERAGE

This is quite an ordinary function; indeed, it is distinctly average. Returns the average (arithmetic mean) of the arguments. For example, if the range **A1:A20** contains numbers, the formula **=AVERAGE(A1:A20)** returns the arithmetic mean of those numbers, including counting zeros.

The **AVERAGE** function measures what is known as “central tendency”, which is the location of the centre of a group of numbers in a statistical distribution. There are three common measures of central tendency:

- **Average:** the arithmetic mean, calculated by adding a group of numbers and then dividing by the count of those numbers. For example, the average of 2, 3, 3, 5, 7, and 10 is 30 divided by 6, which is 5
- **Median:** the middle number of a group of numbers; that is, half the numbers have values that are greater than the median, and half the numbers have values that are less than the median. For example, the median of 2, 3, 3, 5, 7, and 10 is 4. If the number of values in the selection is an even number, the median is defined as the midpoint between the two central numbers
- **Mode:** the most frequently occurring number in a group of numbers. For example, the mode of 2, 3, 3, 5, 7, and 10 is 3.

For a symmetrical distribution of a group of numbers, these three measures of central tendency are all the same. For a skewed distribution of a group of numbers, they can be different.

The **AVERAGE** function employs the following syntax to operate:

**AVERAGE(number1, [number2], ...)**

The **AVERAGE** function has the following arguments:

- **number1:** this is required. The first number, cell reference, or range for which you want the average
- **number2, ...:** this is optional. Additional numbers, cell references or ranges for which you want the average, up to a maximum of 255 in total.

It should be further noted that:

- Arguments can either be numbers or names, ranges, or cell references that contain numbers
- Logical values and text representations of numbers that you type directly into the list of arguments are counted
- If a range or cell reference argument contains text, logical values, or empty cells, those values are ignored; however, cells with the value zero are included
- Arguments that are error values or text that cannot be translated into numbers cause errors
- If you want to include logical values and text representations of numbers in a reference as part of the calculation, use the **AVERAGEA** function
- If you want to calculate the average of only the values that meet certain criteria, use the **AVERAGEIF** or **AVERAGEIFS** functions (*please see below*).

You should bear in mind that when you average cells, there is a difference between empty cells and those containing the value zero. If you have cleared the ‘Show a zero in cells that have a zero value’ check box in the Excel Options dialog box in Excel, you may not realise zeros are being included in calculating the average. To locate the ‘Show a zero in cells that have a zero value’ check box, go to **File -> Options -> Advanced** and look under ‘Display options for this worksheet’.

Consider the following example:

	A	B	C
1	Values	Average	Formula
2	1	1.00	=AVERAGE(A\$2:A2)
3	2	1.50	=AVERAGE(A\$2:A3)
4	3	2.00	=AVERAGE(A\$2:A4)
5	4	2.50	=AVERAGE(A\$2:A5)
6	0	2.00	=AVERAGE(A\$2:A6)
7		2.00	=AVERAGE(A\$2:A7)
8	{Text}	2.00	=AVERAGE(A\$2:A8)
9			
10			A7 is a blank cell.
11			

## The A to Z of Excel Functions: AVERAGEA

Similar to the **AVERAGE** function, this function calculates the average (arithmetic mean) of the values in the list of arguments, *i.e.* the key difference is that this works on the value of the argument rather than assume the argument is a number. Essentially, this means that the **AVERAGEA** function is different from the **AVERAGE** function in that it treats TRUE as a value of 1 and FALSE as a value of 0.

The **AVERAGEA** function measures what is known as “central tendency”, as discussed above. The **AVERAGEA** function employs the following syntax to operate:

**AVERAGEA(value1, [value2], ...)**

The **AVERAGEA** function has the following arguments:

- **value1:** this is required
- **value 2, ...:** subsequent values are optional. You can have between one and 255 cells, ranges of cells.

You should bear in mind that when you average cells, there is a difference between empty cells and those containing the value zero. If you have cleared the 'Show a zero in cells that have a zero value' check box in the Excel Options dialog box in Excel, you may not realise zeros are being included in calculating the average. To locate the 'Show a zero in cells that have a zero value' check box, go to **File -> Options -> Advanced** and look under 'Display options for this worksheet'.

Another example:

	A	B	C
1	Values	Average	Formula
2	1	1.00	=AVERAGE(A\$2:A2)
3	2	1.50	=AVERAGE(A\$2:A3)
4	3	2.00	=AVERAGE(A\$2:A4)
5	4	2.50	=AVERAGE(A\$2:A5)
6	TRUE	2.50	=AVERAGE(A\$2:A6)
7	FALSE	2.50	=AVERAGE(A\$2:A7)
8	0	2.00	=AVERAGE(A\$2:A8)
9		2.00	=AVERAGE(A\$2:A9)
10	{Text}	2.00	=AVERAGE(A\$2:A10)
11			
12			A9 is a blank cell.
13			

## The A to Z of Excel Functions: AVERAGEIF

This function returns the average (arithmetic mean) of all cells in a range that meet a given criterion. It is the "average" equivalent of SUMIF.

The **AVERAGEIF** function is yet another that measures "central tendency". The **AVERAGEIF** function employs the following syntax to operate:

**AVERAGEIF(range, criterion, [average\_range])**

The **AVERAGEIF** function has the following arguments:

- **range**: this is required. One or more cells to use for the criterion, including numbers, names, arrays or references that contain numbers
- **criterion**: this is also required. The criterion in the form of a number, expression, cell reference, or text that defines which cells are averaged. For example, criteria can be expressed as 32, "32", ">32", "apples", **B4** or ">="&**B4**.
- **average\_range**: Optional. The actual set of cells to average. If omitted, range is used. Be careful though: if an **average\_range** is specified that is not of the same dimensions as range, the **average\_range** will be modified by using the top, left cell specified in the range but then use the dimensions that correspond in size and shape to **range**, e.g.

Range	Specified average_range	average_range used
A1:A4	B5:B8	B5:B8
A1:A4	B5:C5	B5:B8
A1:B4	C2:D5	C2:D5
A1:B4	A1:D1	A1:B4

It should also be noted that:

- Cells in range that contain TRUE or FALSE are ignored
- If a cell in **average\_range** is an empty cell, **AVERAGEIF** ignores it
- If **range** is a blank or text value, **AVERAGEIF** returns the #DIV/0! error value
- If a cell in criteria is empty, **AVERAGEIF** treats it as a zero value
- If no cells in the range meet the criteria, **AVERAGEIF** returns the #DIV/0! error value
- You can use the wildcard characters, question mark (?) and asterisk (\*), in criteria. A question mark matches any single character; an asterisk matches any sequence of characters. If you want to find an actual question mark or asterisk, type a tilde (~) before the character.

	A	B	C
1		Salary	Tax
2		5,000	0
3		10,000	2,475
4		12,500	2,600
5		17,480	3,155
6		22,500	4,000
7		TRUE	TRUE
8		FALSE	FALSE
9		Assume	10
10		SumProduct	20
11			
12			
13	Description	Result	Formula
14	Average of tax payments less than \$3,000	1021.00	=AVERAGEIF(C2:C10,"<3000")
15	Average of tax payments greater than the value in cell C3	3251.67	=AVERAGEIF(C2:C10,">"&C3)
16	Average of negative tax payments	#DIV/0!	=AVERAGEIF(C2:C10,"<0")
17	Average of tax payments where salary is greater than the average of the values in cells B2 and B4	3057.50	=AVERAGEIF(B2:B10,">"&AVERAGE(B2,B4),C2:C10)
18	Average of tax payments where Salary field contains the text string "sum"	15.00	=AVERAGEIF(B2:B10,"=*sum*",C2:C10)
19			

To illustrate: ➔

## The A to Z of Excel Functions: AVERAGEIFS

Similar to AVERAGEIF, this function returns the average (arithmetic mean) of all cells that meet multiple criteria. It is the “average” equivalent of SUMIFS.

The **AVERAGEIFS** function is our final function this month that measures “central tendency”. The **AVERAGEIFS** function employs the following syntax to operate:

**AVERAGEIFS(average\_range, criterion\_range1, criterion1, [criterion\_range2, criterion2], ...)**

The **AVERAGEIFS** function has the following arguments:

- **average\_range**: this is required. One or more cells to average, including numbers, names, arrays, or references that contain numbers
- **criterion\_range1**: this is required, consisting of one or more cells to use for the criterion1 and can include numbers or names, arrays, or references that contain numbers
- **criterion\_range2,...**: up to a further 126 ranges (with associated criteria) are optional
- **criterion1**: this is also required. The criterion in the form of a number, expression, cell reference, or text that defines which cells are averaged. For example, criteria can be expressed as 32, "32", ">32", "apples", B4 or ">="&B4.
- **criterion2, ...**: this is required if the corresponding optional **criterion\_range** is invoked. Syntax should be similar to that used for **criterion1**.

It should be further noted that:

- If **average\_range** is a blank or text value, **AVERAGEIFS** returns the #DIV/0! error value
- If a cell in a criteria range is empty, **AVERAGEIFS** treats it as a zero value
- Cells in range that contain TRUE evaluate as 1; cells in range that contain FALSE evaluate as zero
- Each cell in **average\_range** is used in the average calculation only if all of the corresponding criteria specified are TRUE for that cell
- Unlike the range and criterion arguments in the **AVERAGEIF** function, in **AVERAGEIFS** each criterion\_range must be the same size and shape as **average\_range**
- If cells in **average\_range** cannot be translated into numbers, **AVERAGEIFS** returns the #DIV/0! error value
- If there are no cells that meet all the criteria, **AVERAGEIFS** returns the #DIV/0! error value
- You can use the wildcard characters, question mark (?) and asterisk (\*), in criteria. A question mark matches any single character; an asterisk matches any sequence of characters. If you want to find an actual question mark or asterisk, type a tilde (~) before the character.

Here’s our final example for this month:

	A	B	C	D	E	F
1		Student	Exam 1	Exam 2	Exam 3	
2		Albert	50%	57%	54%	
3		Bianca	94%	83%	91%	
4		Charlie	75%	77%	62%	
5		Delta	82%	80%	75%	
6		Erica	65%	60%	63%	
7		Frankie	48%	57%	Spoilt	
8		George	No attempt	66%	52%	
9		Hughie	55%	Incomplete	65%	
10						
11						
12		Description		Result		Formula
13		Average of Exam 1 where results lie between 60% and 80% inclusive		70%		=AVERAGEIFS(C2:C9,C2:C9,">=60%",C2:C9,"<=80%")
14		Average of Exam 2 where scores are above 90%		#DIV/0!		=AVERAGEIFS(D2:D9,D2:D9,">90%")
15		Average of Exam 2 where Exam 1 has been attempted and Exam 3 is not spoilt		71%		=AVERAGEIFS(D2:D9,C2:C9,"<>No attempt",E2:E9,"<>Spoilt")
16						

### Reader’s Question

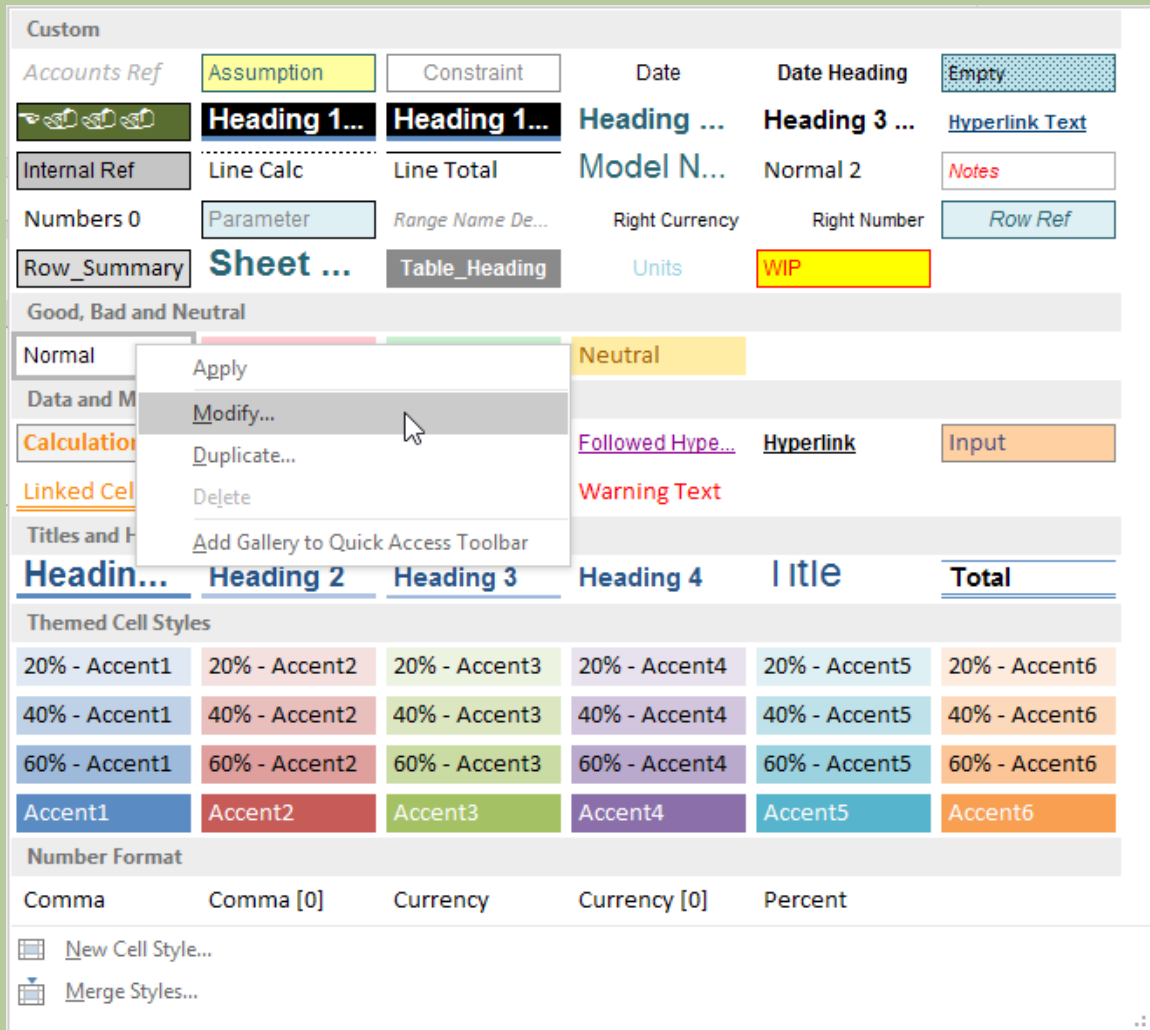
This month’s question proves professionals working in the modelling industry don’t want dates (*groan! – Ed.*).

*In a large workbook, that has been in use for some time, I’m suddenly finding practically the entire workbook has formatted every cell as a date. I didn’t change anything! How can I get my spreadsheet to look “normal” again?*

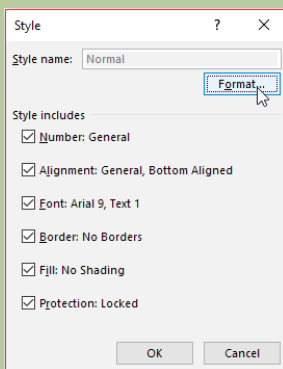
“Normal” is the operative word here. This bug raises its head a little too frequently for our liking and first emanated in Excel 2007. It’s to do with the default style in Excel, called ‘Normal’ ironically. Apparently, the number format in the ‘Normal’ style inexplicably changes from ‘General’ to a particular date format ([~~409~~]m/d/yy h:mm AM/PM;@). Past Excel MVP Ron Coderre speculated this may be triggered by sharing an Excel workbook given anecdotal evidence.

The fix is very simple:

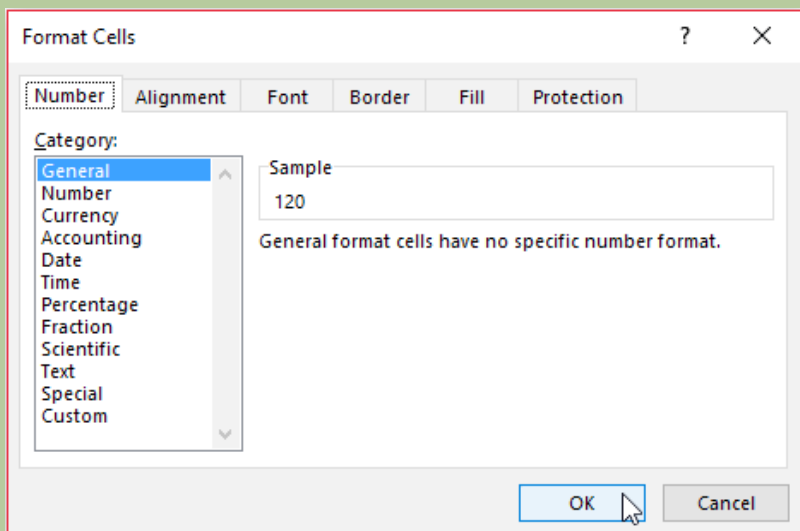
- Click on any cell in any worksheet that contains one of these incorrectly formatted cells
- On the ‘Home’ tab, in the ‘Styles’ group, click on the down arrow in the bottom right-hand corner of the ‘Styles’ window (**ALT + H + J**) and right click on the ‘Normal’ style to select ‘Modify...’ (**DO NOT** use the keyboard shortcut **ALT + H + J + M** as this will merge styles from another workbook) *viz.*



- Click the 'Format' button in the resulting 'Style' dialog box



- On the 'Number' tab of the 'Format Cells' dialog box, change the 'Category:' back to 'General' from 'Date'.



- Click the 'OK' button twice
- Done!

Hopefully, this problem will disappear eventually. Presently, we know of no update or patch other than this workaround that fixes this annoying – and persistent – bug.

## MVP 2017



SumProduct is pleased to announce that our MD, Liam Bastick, has been re-awarded Microsoft's Most Valuable Professional (MVP) award for Excel for 2017. This award recognises exceptional technical community leaders from around the world who voluntarily share their high quality, real world expertise with others. Microsoft MVPs are a highly select group of experts representing technology's best and brightest who share a deep commitment to community and a willingness to help others.

Worldwide, there are over 100 million participants in technical communities; of these participants, there are fewer than 4,000

active Microsoft MVPs. In Excel, c.100 people have received this award.

Microsoft's MVP Award evaluates technical expertise and voluntary community contributions for the past year, considering the quality, quantity and level of impact of contributions. It's a difficult award to attain and just as difficult to retain. This is Liam's fourth consecutive award.

At SumProduct, you can rely on our experience and willingness to help.

## Amsterdam Excel Summit: April 18 and 19, 2017



Yes, it's time for those discussions again. Excel Microsoft MVPs Jan Karel (pictured left above) and Tony de Jonker (*not left*) are busily scheduling this year's Amsterdam Excel Summit. For our readers based in Europe, the format of this year's sessions have not yet been finalised, but as always, it will be presented by various MVPs from around the globe on Tuesday 18 April and Wednesday 19 April.

Technically, Tuesday 18th will be a "pre-conference masterclass" with the Summit the next day. Topics seem to be focusing on Power BI, Power Pivot and Power Query this year, reflecting the continuing end users' moves toward these Business Intelligence tools.

This Summit has been an annual event since 2014, with each one bigger and better than its precedent <http://topexcelclass.com/index.php/amsterdam-excel-summit/>. Hope to see some of you there!

## Upcoming SumProduct Training Courses

Location	Course	Date	Duration
Melbourne	Financial Modelling for Mergers and Acquisitions	6th - 9th Feb 2017	4 days
Sydney	Excel Tips and Tricks	6th Feb 2017	1 day
Sydney	Financial Modelling	7th - 8th Feb 2017	2 days
Melbourne	Power Pivot, Power Query and Power BI	20th - 22nd Feb 2017	3 days
Toronto	Financial Modelling	6th - 7th Mar 2017	2 days
Toronto	Power Pivot, Power Query and Power BI	8th - 10th Mar 2017	3 days
New York	Financial Modelling	13th - 14th Mar 2017	2 days
New York	Power Pivot, Power Query and Power BI	15th - 17th Mar 2017	3 days
Sydney	Power Pivot, Power Query and Power BI	20th - 22nd Mar 2017	3 days
Melbourne	Financial Modelling	27th - 28th Mar 2017	2 days
Sydney	Visual Basic for Applications	4th - 4th Apr 2017	1 day
Sydney	Excel Tips & Tricks	10th - 10th Apr 2017	1 day
Sydney	Financial Modelling	20th - 21st Apr 2017	2 days
Melbourne	Excel Tips & Tricks	29th - 29th May 2017	1 day
Melbourne	Financial Modelling	30th - 31st May 2017	2 days
Melbourne	Introduction to Financial Forecasting	1st - 1st Jun 2017	1 day
Perth	Excel Tips & Tricks	7th - 7th Jun 2017	1 day
Perth	Financial Modelling	8th - 9th Jun 2017	2 days
Sydney	Excel Tips & Tricks	13rd - 13rd Jun 2017	1 day
Sydney	Financial Modelling	14th - 14th Jun 2017	1 day
Melbourne	Power Pivot/ Power Query/ Power BI	19th - 21st Jun 2017	3 days
Brisbane	Excel Tips & Tricks	26th - 26th Jun 2017	1 day
Brisbane	Financial Modelling	27th - 28th Jun 2017	2 days
Melbourne	Excel Tips & Tricks	3rd - 3rd Jul 2017	1 day
Melbourne	Financial Modelling	4th - 5th Jul 2017	2 days
Sydney	Visual Basic for Applications	10th - 10th Jul 2017	1 day





## Referral Programme

Have you heard about the SumProduct Referral programme? If you successfully introduce us to a client we will pay you 10% of the net profits of the engagement won upon receipt of client payment. Sounds like a pretty good deal to us!

Terms and conditions apply. Referrer must be over 18 years of age, able to issue an invoice and not be an employee, director, agent or other related party of the client engaged. For further information, drop us a line at [contact@sumproduct.com](mailto:contact@sumproduct.com). We hope to hear from you!

Sydney	Excel Tips & Tricks	31st - 31st Jul 2017	1 day
Sydney	Financial Modelling	1st - 2nd Aug 2017	2 days
Perth	Power Pivot/ Power Query/ Power BI	7th - 9th Aug 2017	3 days
Adelaide	Excel Tips & Tricks	14th - 16th Aug 2017	3 days
Adelaide	Financial Modelling	15th - 15th Aug 2017	1 day
Melbourne	Mergers and Acquisitions	21st - 24th Aug 2017	4 days
Brisbane	Power Pivot/ Power Query/ Power BI	28th - 30th Aug 2017	3 days
Melbourne	Excel Tips & Tricks	4th - 4th Sep 2017	1 day
Melbourne	Financial Modelling	5th - 6th Sep 2017	2 days
Melbourne	Power Pivot/ Power Query/ Power BI	12nd - 14th Sep 2017	3 days
Sydney	Excel Tips & Tricks	25th - 25th Sep 2017	1 day
Sydney	Financial Modelling	26th - 27th Sep 2017	2 days
Sydney	Power Pivot/ Power Query/ Power BI	16th - 18th Oct 2017	3 days
Melbourne	Excel Tips & Tricks	23rd - 23rd Oct 2017	1 day
Melbourne	Financial Modelling	24th - 25th Oct 2017	2 days
Sydney	Visual Basic for Applications	6th - 6th Nov 2017	1 day
Sydney	Excel Tips & Tricks	13rd - 13rd Nov 2017	1 day
Sydney	Financial Modelling	14th - 15th Nov 2017	2 days
Melbourne	Power Pivot/ Power Query/ Power BI	4th - 6th Dec 2017	3 days
Melbourne	Excel Tips & Tricks	11st - 11st Dec 2017	1 day
Melbourne	Financial Modelling	12nd - 13rd Dec 2017	2 days

## Key Strokes

Each newsletter, we'd like to introduce you to useful keystrokes you may or may not be aware of. This month we decided we'd continue going through the function keys – this time, with the **F6** function key:

Keystroke	What it does
F6	Next Pane
ALT + F6	Switch to VBA Integrated Development Environment (if already open)
CTRL + F6	Next Window / Workbook
SHIFT + F6	Previous Pane
CTRL + SHIFT + F6	Previous Window / Workbook

There are over 540 keyboard shortcuts in Excel. For a comprehensive list, please download our Excel file a [www.sumproduct.com/thought/keyboard-shortcuts](http://www.sumproduct.com/thought/keyboard-shortcuts). Also, check out our new daily **Excel Tip of the Day** feature on the [www.sumproduct.com](http://www.sumproduct.com) homepage.

## Our Services

We have undertaken a vast array of assignments over the years, including:

- **Business planning**
- **Building three-way integrated financial statement projections**
- **Independent expert reviews**
- **Key driver analysis**
- **Model reviews / audits for internal and external purposes**
- **M&A work**
- **Model scoping**
- **Power BI, Power Query & Power Pivot**
- **Project finance**
- **Real options analysis**
- **Refinancing / restructuring**
- **Strategic modelling**
- **Valuations**
- **Working capital management**

If you require modelling assistance of any kind, please do not hesitate to contact us at [contact@sumproduct.com](mailto:contact@sumproduct.com).

## Link to Others

These newsletters are not intended to be closely guarded secrets. Please feel free to forward this newsletter to anyone you think might be interested in converting to "the SumProduct way".

If you have received a forwarded newsletter and would like to receive future editions automatically, please subscribe by completing our newsletter registration process found at the foot of any [www.sumproduct.com](http://www.sumproduct.com) web page.

## Any Questions?

If you have any tips, comments or queries for future newsletters, we'd be delighted to hear from you. Please drop us a line at [newsletter@sumproduct.com](mailto:newsletter@sumproduct.com).

## Training

SumProduct offers a wide range of training courses, aimed at finance professionals and budding Excel experts. Courses include Excel Tricks & Tips, Financial Modelling 101, Introduction to Forecasting and M&A Modelling.

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Drop us a line at [training@sumproduct.com](mailto:training@sumproduct.com) for a copy of the brochure or download it directly from <http://www.sumproduct.com/training>.

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