



**we are digital**  
delivering digital inclusion training

# MS Office 2010-2013

## Excel

### Formulas and Pivot Tables

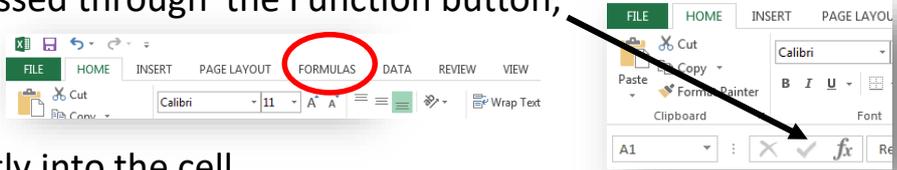


# Learning Guide



## Excel 2010-2013 – Formulas

Excel's formulas can be accessed through the Function button, or through the Formulas ribbon. Advanced users can enter the formula directly into the cell.



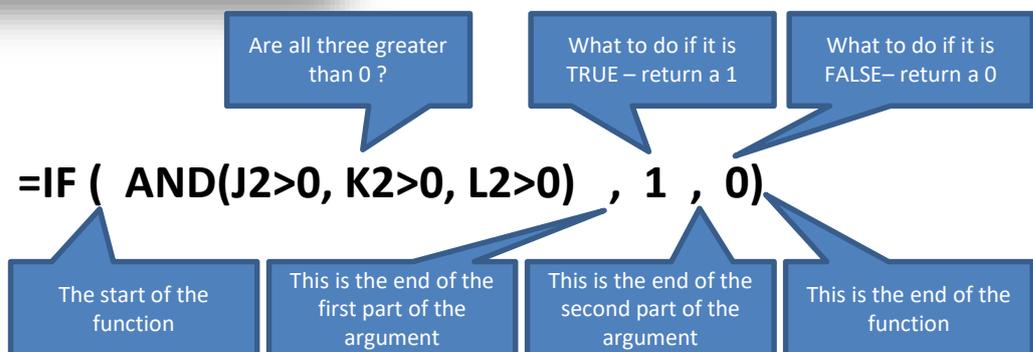
### If statements

One of the features of Excel is the ability to use logic functions within other formulas, below is an example using logic functions IF and AND to find a value.

	J	K	L	M	N
	RetailPriceValue	CheckRetailer	CheckCode	And	Use
DDATA	0	8	0	FALSE	0
	1.49	8	6	TRUE	1
	1.49	8	6	TRUE	1
	1.49	8	6	TRUE	1
	1.49	8	6	TRUE	1
	1.49	8	6	TRUE	1
	1.49	8	6	TRUE	1

- We want to know if three values are greater than 0.
- If they are, we want to put 1 as the answer
- If one or more equals 0, we want to put 0 as the answer

**Tip:** Change cells with formulas to **RED**, it gives a very quick way of highlighting *static data* cells from *active data* cells



### statements

A variation of the IF function is the IFEError function. If the function returns an error – do something else

	B	C	D
	£7 Ronseal Perfect Finish Ultimate Protection Cedar Decking Stain 2.5L		0
	£7 Ronseal Perfect Finish Ultimate Protection Charcoal Decking Stain 2.5L		0
	£7 Ronseal Perfect Finish Ultimate Protection Dark Oak Decking Stain 2.5L		0

**If this function produces an error put 0**

**Tip:** It is possible to "nest" IF statements one after the other. Each argument can be dependent on other IF statements. In practice though complicated IF statements may look impressive, but tracing errors can be very difficult.

# Learning Guide

## VLookups



**VLOOKUP is one of the most commonly used functions in Excel**

VLOOKUPS are a quick way of matching data between two sources of information

Here we have a spreadsheet where we want to match the **SellingPrice** in Column B to the **Product** in Column F, using their common shared **ProductCode**.

	A	B	C	D	E	F
1	ProductCode	SellingPrice			ProductCode	Product
2	5111012345685	£ 12.98			5111012345678	Dulux Trade Internal Brilliant White Satin Paint 1L
3	5111012345689	£ 12.98			5111012345679	Dulux Trade Satinwood Pure Brilliant White Emulsion Paint 2.5L
4	5111012345693	£ 12.98			5111012345680	Dulux Trade Weathershield Brilliant White External Matt Smooth Masonry Paint 10L
5	5111012345679	£ 13.98			5111012345681	Dulux Trade Weathershield Brilliant White External Matt Smooth Masonry Paint 5L
6	5111012345688	£ 13.98			5111012345682	Dulux Trade Weathershield Brilliant White External Matt Textured Masonry Paint 5L
						Dulux Trade Weathershield Magnolia

VLOOKUP is used to quickly match these two sources of data

This is what we want to match from return the 2nd column

Formula bar: `=VLOOKUP(E2,$A:$B,2,FALSE)`

	A	B	C	D	E	F	G
1	ProductCode	SellingPrice			ProductCode	Product	SellingPriceFound
2	5111012345685	£ 12.98			5111012345678	Dulux Trade Internal Brilliant White Satin Paint 1L	£ 18.00
3	5111012345689	£ 12.98			5111012345679	Dulux Trade Satinwood Pure Brilliant White Emulsion Paint 2.5L	£ 13.98
4	5111012345693	£ 12.98			5111012345680	Dulux Trade Weathershield Brilliant White External Matt Smooth Masonry Paint 10L	£ 29.00
5	5111012345679	£ 13.98			5111012345681	Dulux Trade Weathershield Brilliant White External Matt Smooth Masonry Paint 5L	£ 29.00
6	5111012345688	£ 13.98			5111012345682	Dulux Trade Weathershield Brilliant White External Matt Textured Masonry Paint 5L	£ 29.00
7	5111012345687	£ 15.98			5111012345683	Dulux Trade Weathershield Magnolia External Matt Smooth Masonry Paint 10L	£ 29.00
8	5111012345696	£ 15.98			5111012345684	Dulux Trade Weathershield Magnolia External Matt Smooth Masonry Paint 5L Can	£ 29.00
9	5111012345678	£ 18.00			5111012345685	Dulux Trade Weathershield White External Matt Smooth Masonry Paint 2.5L	£ 12.98

FALSE forces Excel to return only EXACT matches

VLOOKUP looks for the answer vertically whilst HLOOKUP can be used to if we wish to match data between rows – horizontally.

VLOOKUP only looks LEFT to RIGHT, so the data has to be in that order. To create a more powerful lookup the combination of INDEX and MATCH can be used to look either way on a spreadsheet and return the answer.

*Tip: The columns reference is locked using the Dollar sign \$*

# Learning Guide

## Pivot Tables

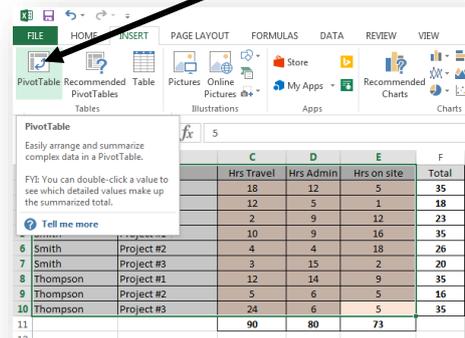


**Pivot Tables allow Excel to summarize and explore data interactively**

The table below shows the number of hours spent on 3 projects:

	Engineer	Project	Hrs Travel	Hrs Admin	Hrs on site	Total
2	Jones	Project #1	18	12	5	35
3	Jones	Project #2	12	5	1	18
4	Jones	Project #3	2	9	12	23
5	Smith	Project #1	10	9	16	35
6	Smith	Project #2	4	4	18	26
7	Smith	Project #3	3	15	2	20
8	Thompson	Project #1	12	14	9	35
9	Thompson	Project #2	5	6	5	16
10	Thompson	Project #3	24	6	5	35
11			90	80	73	

To create a Pivot Chart from the table select the data and from the INSERT ribbon and click on Pivot Table

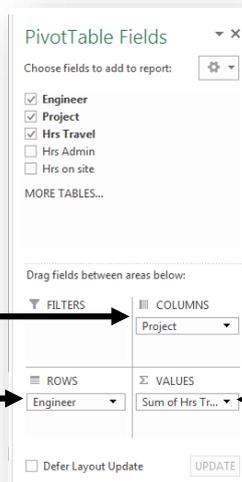


The wizard gives the option to create a new sheet or use an existing one, here we have created two Pivot Tables: One to show the hours of travel and one to show the hours on site.

The Pivot Table is driven by the Pivot Quadrant

We wanted the Projects as the Column header

The Engineers as the rows and..



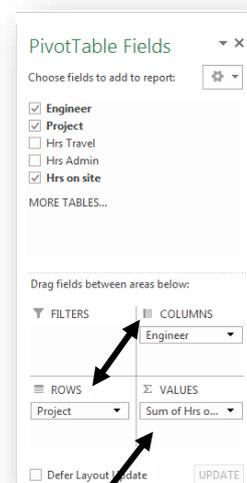
	Sum of Hrs Travel	Column La			
Row Labels	Project #1	Project #2	Project #3	Grand Total	
Jones	18	12	2	32	
Smith	10	4	3	17	
Thompson	12	5	24	41	
Grand Total	40	21	29	90	

**Tip:** Totals are produced automatically

..the number of hours to be summed up.

For the second table the Engineers and Projects have been swapped.

	Sum of Hrs on site	Column La			
Row Labels	Jones	Smith	Thompson	Grand Total	
Project #1	5	16	9	30	
Project #2	1	18	5	24	
Project #3	12	2	5	19	
Grand Total	18	36	19	73	



The calculation can be changed by right clicking on the VALUES Σ quadrant

**Tip:** Any field can be used to filter the data by dragging it to the top left quadrant