

Excel - Introduction to Functions

Excel **functions** are **preset formulas**, each defined by a specific name. You can insert a **function** into an empty cell, or as part of another **formula**. The function name tells Excel which calculation to perform, and most functions will require **function arguments** e.g. the range of cells to calculate. Examples include:

- **=SUM(number 1, number 2...)**
Adds up the total of a set of values.
- **=AVERAGE(number 1, number 2...)**
Calculates the mean (average) of a set of values.
- **=COUNTA(value 1, value2...)**
Counts the number of non-blank cells in a range.
- **=IF(Logical Test, Value if True, Value if False)**
Checks whether a condition is met and returns one value if True and another if False .
- **=SUMIF(range, criteria, sum_range)**
Adds up the cells specified by a given condition or criteria.

Insert a function

1. Click in an empty cell where you would like the result of your formula to appear e.g. B5

	A	B	C	D	E
1		Amount	Interest		Interest Rate
2		£5,000	£227.50		4.55%
3		£7,500	£341.25		
4		£1,000	£45.50		
5	Total				
6					

2. Type an = sign, followed by the name of the function. A suggestion list appears with a function **tooltip**, describing the purpose of the function

COUNTIF							✓	:	✗	✓	fx	=sum
	A	B	C	D	E	F						
1		Amount	Interest		Interest Rate							
2		£5,000	£227.50		4.55%							
3		£7,500	£341.25									
4		£1,000	£45.50									
5	Total	=sum										
6		SUM										
7		SUMIF										

Adds all the numbers in a range of cells

3. Make sure the function you want is highlighted and press the **Tab** key (or **double-click** the function in the list)

	A	B	C	D	E
1		Amount	Interest		Interest Rate
2		£5,000	£227.50		4.55%
3		£7,500	£341.25		
4		£1,000	£45.50		
5	Total	=SUM			
6		SUM(number1, (number2), ...)			

4. Click and drag to select the cells you would like to add up e.g. B2 to B4

	A	B	C	D	E
1		Amount	Interest		Interest Rate
2		£5,000	£227.50		4.55%
3		£7,000	£318.50		
4		£1,000	£45.50		
5	Total	=SUM(B2:B4)			

5. Press **Enter** (or click the tick on the **Formula Bar**) to display the result.

B5	:	✗	✓	fx	=SUM(B2:B4)
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6. The formula result appears in the cell; the formula is shown in the Formula Bar.

B5	:	✗	✓	fx	=SUM(B2:B4)
1	A	B	C	D	E
2		Amount	Interest		Interest Rate
3		£5,000	£227.50		4.55%
4		£7,000	£318.50		
5	Total	£13,000			



There are other ways of inserting functions, such as clicking the **fx** button on the Formula Bar or clicking **Insert Function** on the **Formulas** tab. You can try these in the next exercise.

Use the Insert Function feature

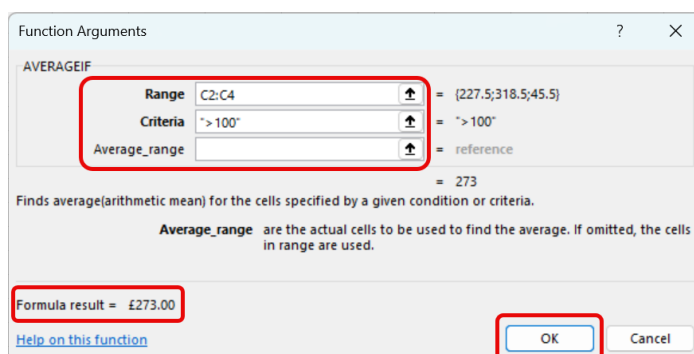
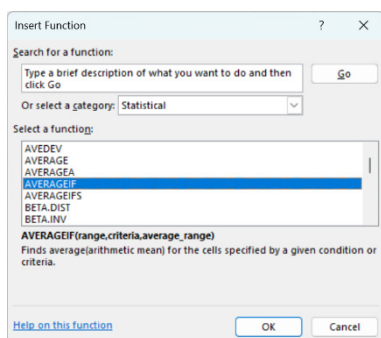
If you're unsure of which function to use, or would like more information about the function you're trying to use, the **Insert Function** window can be very useful.

1. Click the cell where you would like the result of your formula to appear e.g. **C5**
2. Click the ***fx*** button on the formula bar to display the **Insert Function** window

	A	B	C	D	E
1		Amount	Interest		Interest Rate
2		£5,000	£227.50		4.55%
3		£7,000	£318.50		
4		£1,000	£45.50		
5	Total	£13,000			



3. Search the library of functions and click **OK** when you find the one you want, eg =AVERAGEIF
4. Enter the arguments of the function as required and click **OK**



Note: items in **bold** are required; not bold items are optional. The Insert Function window also displays a preview of the formula result.



Clicking the **Help on this function** hyperlink in the Insert Function window will take you to the help system page for the function you're using. This contains more detailed help and examples.



Function arguments are different for every function.

Once you are familiar with a function, you can insert it by simply typing the name into your cell (preceded by =) or formula, and selecting the required function from the drop-down list.

Further information and help

- Use MyIT to log calls with the IT Service Desk: <https://myit.abdn.ac.uk>
- If you want to learn about any Microsoft product in more detail you can use [Microsoft 365 help and learning](#) for tutorials, videos and helpful hints