

# Excel Formulas

## Basic math

Function	Formula	Example
To add up the total	=SUM(cell range)	=SUM(B2:B9)
To add individual items	=Value 1 + Value 2	=B2+C2
Subtract	=Value 1 - Value 2	=B2-C2
Multiply	=Value 1 * Value 2	=B2*C2
Divide	=Value 1 / Value 2	=B2/C2
Exponents	=Value 1 ^ Value 2	=B2^C2
Average	=AVERAGE(cell range)	=AVERAGE(B2:B9)
Median	=MEDIAN(cell range)	=MEDIAN(B2:B9)
Max	=MAX(cell range)	=MAX(B2:B9)
Min	=MIN(cell range)	=MIN(B2:B9)

## Absolute cell references

When a formula contains an absolute reference, no matter which cell the formula occupies the cell reference does not change: if you copy or move the formula, it refers to the same cell as it did in its original location. In an absolute reference, each part of the reference (the letter that refers to the row and the number that refers to the column) is preceded by a "\$" – for example, **\$A\$1** is an absolute reference to cell A1. Wherever the formula is copied or moved, it always refers to cell A1.

## Conditional statements

Function	Formula	Example
If statement	=IF(logical test, "result if the test answer is true", "result if the test answer is false")	=IF(B2>69,"Pass","Fail")
Exact	=EXACT(Value1, value2)	=EXACT(B2, C2)

## Lookup Within a Range

Function	Formula	Example
Looks up a value in the leftmost column and returns a value in the same row of the column you specify.	=VLOOKUP(value, table, output column, find closest match?)	=VLOOKUP(A2, \$C\$2:\$D\$6, 2,TRUE)

Percent	Grade
0	F
60	D
70	C
80	B
90	A

*Values must be listed in ascending order, as displayed in the table:*