

displayed in D3 is not the formula but the result of the multiplication.

Item	Number	Price	Total
Hammer	2	£5.50	£11.00
			£0.00

The formula is displayed in the Formula Bar, but notice that although we copied the formula $B2*C2$ from cell D2, the formula in D3 is $B3*C3$. That is, the new formula has been changed relatively, or put another way, as the formula has moved down one row, so also have all other cell references. Now that we know that we can copy the formula from D2 into as many cells as we like beneath it, say from D3 to D10, as shown below.

Click on the cell that contains the formula to be copied (D2) the point to the small square in the bottom right hand corner of the cell. You will notice that the cursor, which until now has been a white square, turns to a black cross. Then click AND HOLD DOWN the mouse button and drag down the column until pointing to D10. On releasing the mouse button the formula is copied, relatively, into each of the cells.

Number	Price	Total
2	£5.50	£11.00

Item	Total
Hammer	£11.00

Item Total
=B2*C2
=B3*C3
=B4*C4
=B5*C5
=B6*C6
=B7*C7
=B8*C8
=B9*C9
=B10*C10

The picture on the right (above) shows the formula in each cell. (Note that this is NOT a normal view.)

More items , their quantities and prices can now be entered and as soon as the data is entered the calculation is performed.

	A	B	C	D	E
				Item	
1	Item	Number	Price	Total	
2	Hammer	2	£5.50	£11.00	
3	Hoe	1	£7.50	£7.50	
4	Nails	250	£0.01	£2.50	
5	Screws	50	£0.15	£7.50	
6				£0.00	
7				£0.00	
8				£0.00	
9				£0.00	
10				£0.00	
11				=SUM(D2:D10)	
12				SUM(number1, [numb	
13					

We may want to have an addition of all the Item Prices in Cell D11. All we need to do to achieve this is to go to cell D11 and type in the appropriate formula. We could type =D2+D3+D4+D5...etc, but this is obviously very laborious. Instead we can use one of very many special functions that are built into Excel. In this case we simple want to add up (Sum) all the data from D2 to D10 and the format for this command is SUM(D2:D10), so into D11 we must type =SUM(D2:D10). Note that the system is NOT case sensitive.

As soon as we press Enter or click elsewhere on the sheet the addition is done for us. We can, if we wish, smarten the sheet up a bit by adding text, formatting the cell containing the

total etc. as described above.

	£0.00
Total	£28.50

	A	B	C	D	E
				Item	
1	Item	Number	Price	Total	
2	Hammer	2	£5.50	£11.00	
3	Hoe	1	£7.50	£7.50	
4	Nails	250	£0.01	£2.50	
5	Screws	50	£0.15	£7.50	
6				£0.00	
7				£0.00	
8				£0.00	
9				£0.00	
10				£0.00	
11				£28.50	
12					

It may be that we want to perform some function on data which should not be relative. For example, if we wish to have a column (E) which shows the price including VAT, and we will display the rate of VAT in a specific cell say C12, then we always want to refer to this cell even though other references might change.

	A	B	C	D	E
				Item	VAT Inclusive
1	Item	Number	Price	Total	
2	Hammer	2	£5.50	£11.00	
3	Hoe	1	£7.50	£7.50	
4	Nails	250	£0.01	£2.50	
5	Screws	50	£0.15	£7.50	
6				£0.00	
7				£0.00	
8				£0.00	
9				£0.00	
10				£0.00	
11			Total	£28.50	
12		VAT Rate	20.00%		
13					

We will head up column E by typing 'VAT Inclusive' in cell E1 (I've changed the font size for this cell to make it fit) then in E2 we need to write our formula. We need to add whatever the rate is, expressed as a percentage, held in cell C12, onto the value held in D2 onto the value held in D2, ie, work out the VAT and add it on. This can be expressed as $D2+(D2*C12)$, which in numbers in this case will mean $11+(11*20/100) = 13.20$. So in cell E2 we could write = $D2+(D2*C12)$, BUT this would mean that when we copied the calculation to the next cell down (E3) then the formula would read = $D3+(D3*C13)$ which would obviously be wrong as there is nothing in C13. To overcome this problem, the '\$' sign is used

to indicate that the reference is NOT relative, so the formula that we need to type into E2 becomes