

Formulae make a spreadsheet application a very powerful tool. They are mathematical sums that can be used to:

- Carry out additions, subtractions, multiplications and divisions (using the +, -, * and / symbols).
- Find the total of a group of numbers (using the SUM function).
- Find the average, maximum or minimum of a set of numbers (using the AVERAGE, MAX and MIN functions).

The previous work resulted in the production of the following spreadsheet:

	A	B	C	D
1	Bicycle Inventory			
2				
3	Color	Store 1	Store 2	
4	Red	25	9	
5	Blue	45	17	
6	Green	30	14	
7	Black	28	11	
8	Silver	42	15	

Task 1 – Questions

- a. How many bicycles are there altogether in Store 2? _____ (Sum of range C4:C8)
- b. How many red bicycles altogether in both stores? _____ (Sum of range B4:C4)
- c. How many bicycles are there in total? _____ (Sum of range B4:C8)

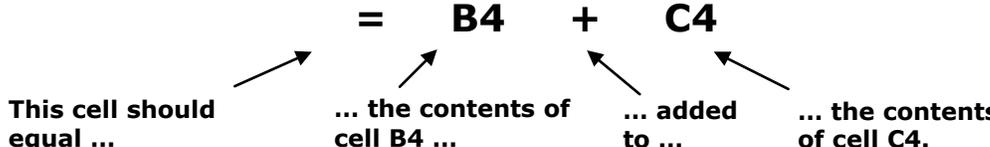
Spreadsheets make calculations like this much easier!

Task 2 – Addition

- a. Open the file 'Excel Basics – Bicycle' in the application 'Microsoft Excel'. If you do not have this file, then copy the spreadsheet shown above.
- b. To find the total number of red bicycles, make cell **D4** the active cell and type the formula '=B4+C4'. Press 'Enter'.

What does the formula mean?

= B4 + C4



- c. Repeat this task for the other colors of bicycle.

Task 3 – SUM

The addition method in Task 2 is fine for adding 2 or 3 numbers together, but adding 20 numbers would mean typing a very long formula (=B4+C4+D4+E4+F4...). To perform this calculation quickly we use the 'SUM' function. We will use the SUM function to add up the **number of bicycles** in each store.

- a. To find the total number of bicycles in **store 1**, click on cell **B9** to make it the active cell and type the formula '=SUM(B4:B8)'. Press 'Enter'.

What does this mean?

= **SUM** (**B4:B8**)

↑
↑
↑

This cell should equal ...
... the sum of ...
... all the data in the range B4 to B8.

- b. Repeat this task for Store 2 and the column containing the totals calculated in Task 2. Add the heading 'Total' to cells **D3** and **A9**. The spreadsheet should now look like this:

	A	B	C	D	E
1	Bicycle Inventory				
2					
3	Color	Store 1	Store 2	Total	
4	Red	25	9	34	
5	Blue	45	17	62	
6	Green	30	14	44	
7	Black	28	11	39	
8	Silver	42	15	57	
9	Total	170	66	236	
10					

- c. Check your answers to **questions a, b and c in Task 1** by looking at the appropriate totals in the spreadsheet.
- d. Save your spreadsheet as 'Excel Basics – Bicycle 2'. We will use your old file in the next section.

Task 4 – Other Operators

We used the '+' symbol in the task above for and addition sum. The other common operators are:

Subtract - (e.g. =B1-A1)

Multiply * (e.g. =B2*A2)

Divide / (e.g. =B3/A3)

Write out the formulae needed to produce the calculations below:

- a. Add the contents of cells C1 and C2 together _____
- b. Sum the contents of the cells in the range A2 to A9 _____
- c. Multiply the data in cell B3 with the data in B7 _____
- d. Divide the data in cell C4 by the data in cell C2 _____
- e. Subtract the data in cell F3 from the data in F2 _____
- f. Add the contents of cells B1 and B2, then subtract B3 _____