

Dividing in a Certain Ratio

Three men – Alf, Bob and Cliff - have £150 to share between them for a job of work. Being all fair of mind they decide to divide the money in proportion to the work they have done. They decide therefore to share the money in the ratio 4:5:6. They draw up the following table.

Name	Share	£
Alf	4	
Bob	5	
Cliff	6	
Total	15	150

If they only had £15 to share, it would be simple. Alf could have £4, Bob could have £5 and Cliff could have £6. In fact they have £150 to share out and we have to fill out the £ column so that the money is shared in the ratio 4:5:6 and the sum of Alf's, Bob's and Cliff's share is £150. But look! The total in the Share column is 15 and the total in the £ column is £150! If we just multiply the shares column by 10 we obtain the £ column. The completed table is given below.

Name	Share	£
Alf	4	40
Bob	5	50
Cliff	6	60
Total	15	150

We can always do this – find the scale factor from the shares column to the £ (or whatever is actually being shared out column) then multiply the shares by the scale factor to get the answers.

Example:

Share 180 in the ratio 7:3:2

	Share	Quantity
	7	105

	3	45
	2	30
Total	12	180

The scale factor from the share to the quantity column is 15 – worked out from the bottom row - so multiply the share column by 15 to get the quantity column.