

TU STUDIES

Using Computers

Spreadsheet Module

Task 6

Task 6a

The table below shows the membership figures for a Trade Union Branch for a full year: -

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
735	737	733	746	751	746	755	758	753	754	759	768

The membership subscription rate is £8.28 per month. Branch receives 7% of subscription income. Produce a spreadsheet to calculate the following: -

- The Branch income each month.
- The total subscription for the year.
- The branch income for the year.
- The average monthly membership.

Task 6b

Your Union has an organising policy that requires every branch to recruit an additional 1% membership each month. The subscription rate for this year has increased to £8.62. Produce a further spreadsheet to predict the statistics above for the coming year assuming that your branch achieves it's 1% per month recruitment target.

Methodology Task 6a: -

Lay out the spreadsheet as shown below. Remember to use Autofill to drag across the Months field to automatically produce the rest. Enter the membership figures into the cells in row 4. Enter the subscription rate of £8.28 into cell C8.

You can now enter the formula shown in cell B5. Note the \$ sign: this makes the reference an 'Absolute reference'. This means that when you Autofill across to December the reference to B4 (a relative reference) will change to C4, D4....M4. but the column letter of the 'Absolute Reference' to C8 will remain unchanged. There is no \$ before the row number as when you copy the data in exercise you will want the row number to change in the copied data.

The formula in cell B6 calculates 7% of the cell B5 to determine the Branch Income. This is a simple relative reference and can be Autofilled across to automatically calculate the figures through to December.

The formula in C9 calculates the average of all the cells from B4 to M4. The **INT** before the bracket and the word average stands for **integer**. As the formula is calculated it will give you the answer of 749.58333. As the INT is in the formula is will automatically round down the answer to the nearest whole number, as you cannot have a half of a person.

C10 and C11 simply add up all the numbers in the selected range.

	A	B	C	D	E	M
1						
2						
3	Month	Jan	Feb	Mar	Apr	Dec
4	Membership	735	737	733	746	768
5	Total Income	=B4*\$C8				=M4*\$F8
6	Branch Income	=B5*7%				=M5*7%
7						
8		Subs rate	8.28			
9		Average Branch Membership	=INT(AVERAGE(B4:M4))			
10		Total Subscription Income	=SUM(B5:M5)			
11		Total Branch Income	=SUM(B6:M6)			

Methodology Task 6b:-

First of all, copy all of the rows in task 4a as you did in task 2a.

First enter the new subscription rate of £8.62 into cell C18. Notice that all the figures in rows 15, 16, 19, 20 and 21 change.

	A	B	C
13	Month	Jan	Feb
14	Membership	=INT(M4+(M4*1%))	=INT(B14+(B14*1%))
15	Total Income	=B14*\$C18	=C14*\$C18
16	Branch Income	=B15*7%	=C15*7%
17			
18		Subs rate	8.62

Now enter the formula shown in cell B14. This returns a figure that is one percent higher than the previous December figure, cell M4. The INT part of the formula instructs Excel to delete any decimal part of the calculation and only use the whole number (known as the integer). The Formula in cell C14 is very similar creating a link to the January cell B14. This relative reference can be Autofilled across to complete the table.

Tip:

Understanding 'Brackets within formulas' - Don't panic!

As you have started to use formulas, you will need to understand what the brackets within formulas mean.

Example 1

$3(6+10)$	a. The computer will calculate the numbers within the bracket before multiplying by 3.
$= 3(16)$	b. The computer will then multiple 3 times 16.
$= 48$ (answer)	

Example 2:

Formula from task 4b table.

$=INT(B13+(B13*1\%))$	a. The computer will look at the appropriate cell and then multiple by 1%
$=INT(B13+(775*1\%))$	
$=INT((B13+(7.75))$	b. The computer will then add whets in the bracket (7.75) to B13.
$=INT(775+7.75)$ $=INT(782.75)$	c. The computer will then round down the number into a whole number.
$= 782$ (answer)	