ACCOUNTS AND BUDGET SERVICELEVEL IV

Learning Guide

Unit of Competence Develop and Use Complex Spreadsheets

Module Title Developing and Using Complex Spreadsheets

LG Code: EIS ACB409 0812

TTLM Code: EIS ACB4M 09 0812

TTLM Development Manual	Date: July 2018
	Compiled by: Acct department

INTRODUCTION

Welcome to the module *"***Develop and Use Complex Spreadsheets***"*. This learner's guide was prepared to help you achieve the required competence in "**Accounts and Budget Support Level IV"**. This will be the source of information for you to acquire knowledge attitude and skills in this particular occupation with minimum supervision or help from your trainer.

Summary of Learning Outcomes

After completing this learning guide, you should be able to:

Lo1:- . Prepare to develop spreadsheet

Lo2:- . . Develop a linked spreadsheet solution

Lo3:- Automate and standardize spreadsheet operation

Lo4:- Use spreadsheets

LO5 Represent numerical data in graphic form

How to Use this TTLM

- Read through the Learning Guide carefully. It is divided into sections that cover all the knowledge, skills and attitude that you need.
- Read Information Sheets and complete the Self-Check at the end of each section to check your progress
- Read and make sure to Practice the activities in the Operation Sheets. Ask your trainer to show you the correct way to do things or talk to more experienced person for guidance.
- When you are ready, ask your trainer for institutional assessment and provide you with feedback from your performance.

Lo1:- . Prepare to develop spreadsheet

Information sheet 1: appropriate resources to create spreadsheet

In order to perform a given task appropriate/required resource should be available on time. Hence, in creating and using spreadsheets appropriate resource can be summarized as follows:

- Well Quipped computer laboratory
- Microsoft excel software
- Computer with all required accessories
- Adequate TTLM
- Reference books and manuals with adequate instructions
- Other required equipments
- Identify task requirements
  - ✓ Data entry
  - ✓ Output
  - ✓ Data presentation
  - ✓ Storages
  - ✓ Formats etc

Therefore, you should select and prepare all the necessary resource and follow conservation techniques to minimize wastage of resources. In addition, follow the ergonomic principles in order to work your tasks safely.

Introduction and Overview

In this module, we will cover some basic and intermediate tasks/ functions associated with Microsoft Excel. The purpose of the module is to show you what the features of Excel are, so that you are comfortable supporting it in a lab environment. At the end of this session, you will be asked to perform some basic commands on a spreadsheet as part of a short quiz.

Information sheet 2:Create simple spreadsheets

Enter data and amend in accordance with the organizational and task requirements

Presentation and layout of your data should much with task and organizational requirements.

Define the purpose and uses of a spreadsheet

A **spreadsheet** is like an **electronic ledger sheet** and it is one element/component of the Microsoft office applications. **Spreadsheet** is a software program that allows users to enter and manipulate

data. It can be used to automate calculations or analyze numeric information. Spreadsheets are often used to automate accounting tasks, budgeting, or any application that requires many calculations.
In order to use the spreadsheet or excel program you should follow the following activities.
Opening Excel:

- Double click the Excel Icon on the desktop or
- Click start button → all programs → Microsoft office → Microsoft Excel
- Start → New office document → under general tab, blank worksheet

Parts of an Excel spreadsheet or windows

Example:

- **Menu bar** displays/lists the names of the application menus**.**
- **Formula bar** as you type text or number into the active cell, it appears in the formula bar or it shows your action on the work sheet active cell.
- **Title bar** shows the title of the opened sheet or active sheet/window and found at the top of the window.
- **Toolbars (such as standard and formatting toolbars)** allow you to execute commands with a single click.

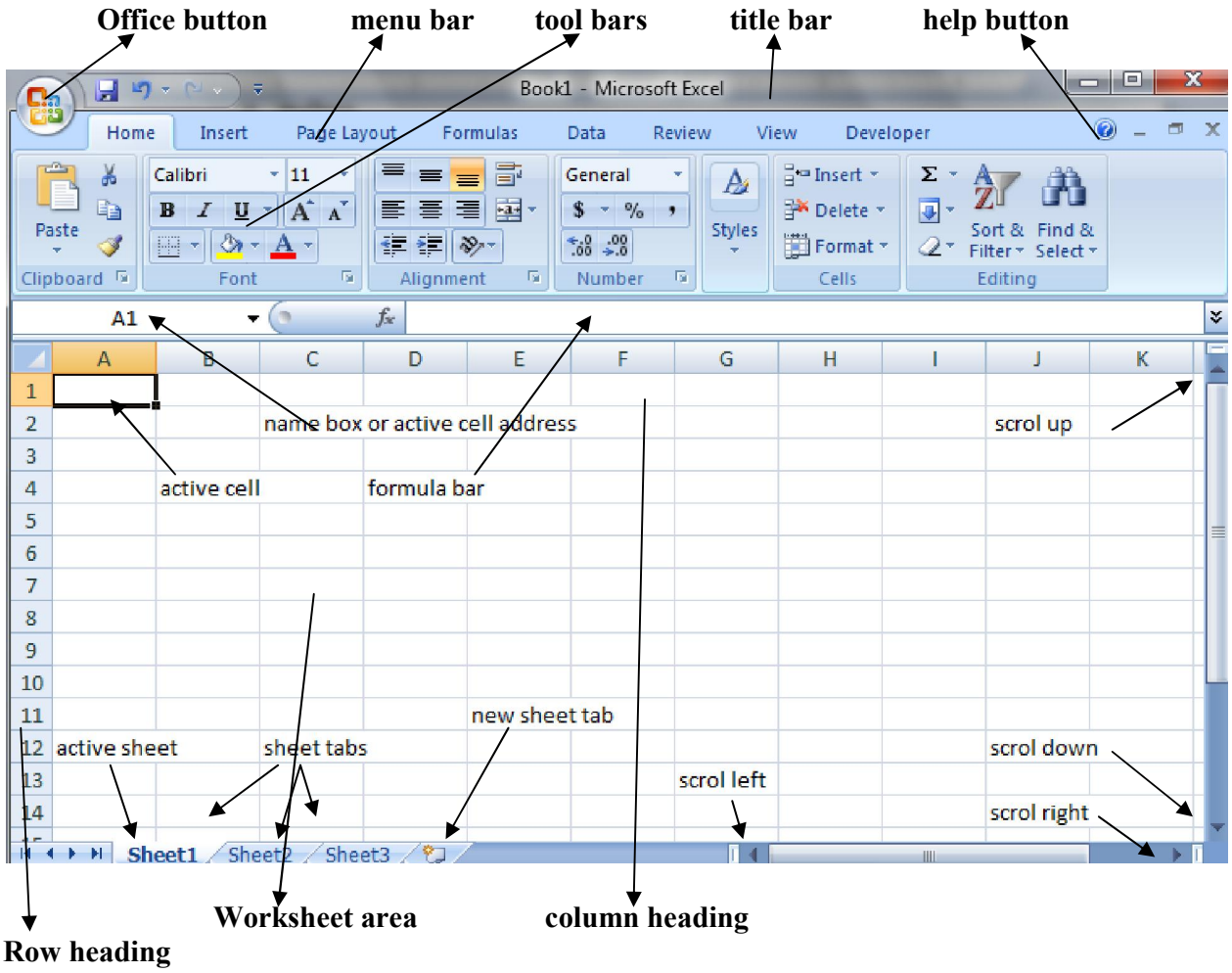


Figure 1: **the Excel windows**

Define a column, row, worksheet and cell

A spreadsheet is comprised of rows, columns, and cells. A **column** is a vertical line on the spreadsheet and **they** are defined by **letters**. A **row** is a horizontal line on the spreadsheet and **they** are defined by **numbers**. A **cell** is represented as a rectangular box on the worksheet. **Cells** are defined by the column and row at which they intersect. The current cell is displayed in the Name Box. **Worksheet** is a working area that you can store or enter, manipulate, calculate, and analyze data such as numbers, texts and formulas on it.

Detail steps to create worksheet on spreadsheet

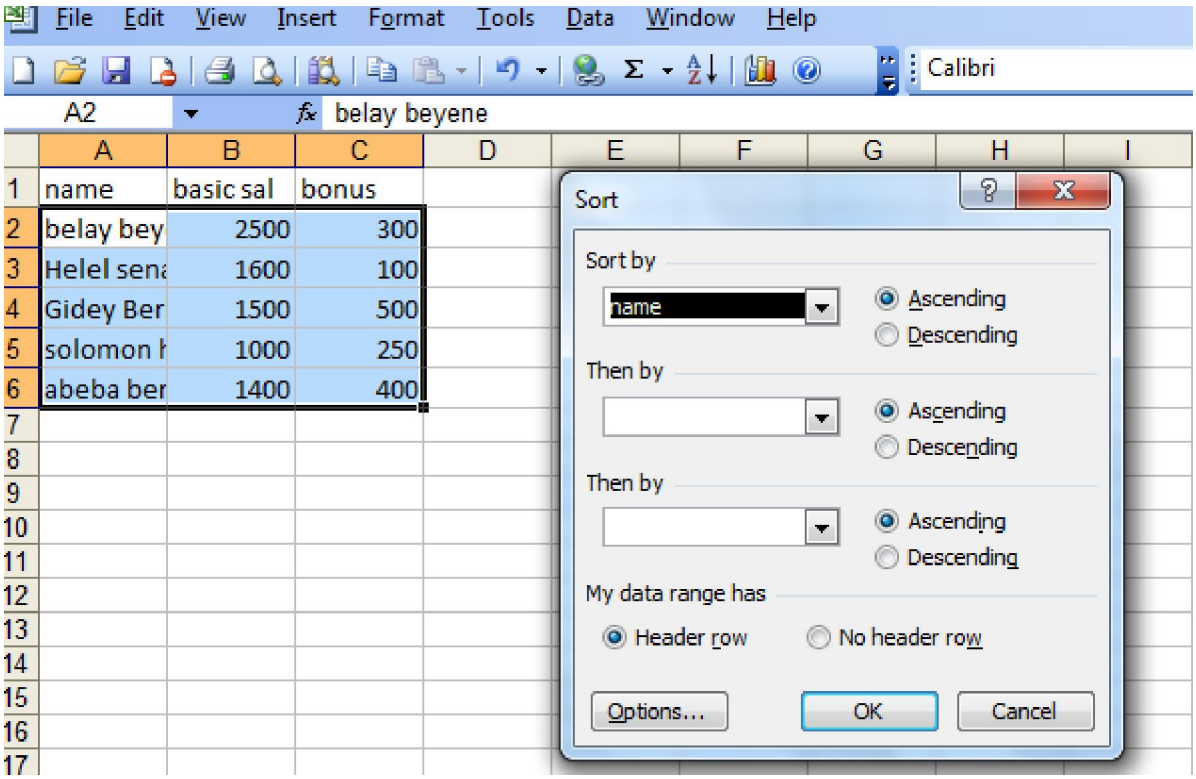
- **Choose New from the file menu in 2003 or on office button on 2007 Microsoft office**
- **Select blank workbook**
- **MS-Excel displays the new worksheet in a new window**
- **Now we can enter, check and amend data on the work sheet**
  The data that can be entered in the work sheet, checked, and amended may be number or text. Entering data is simple. Hence, in order to enter data:
    - Locate the cell in which the data is to be placed (a box should be highlighted or selected) that is the active cell.
    - Type the data
    - Press enter or click out of the cell when you finished your work or action.
    - Check the accuracy of the data
    - If necessary amend it or correct it or change their font size, style color and so on.

Sorting data on excel

You can rearrange the rows or columns of a list based on the values in the list by sorting. When you sort, Microsoft Excel rearranges rows, columns, or individual cells by using the sort order that you specify. You can **sort** lists in **ascending (1 to 9 or A to Z)** or **descending (9 to 1 or Z to A)** order, and sort based on the contents of one or more columns (sort keys). If you use three sort keys, first the cells will be sorted by the value of the first sort key, the cells which contain the same value of the first sort key will be sorted by the second sort key and cells which have the same value of the first and second sort key will be sorted by the third sort key.

To sort data in cells

- Select the cells (rows or columns) you want to sort. Including headings if there are.
- Choose sort from data menu and see the image below



- Sort by name
- Then by basic salary
- Then by bonus
- Click OK

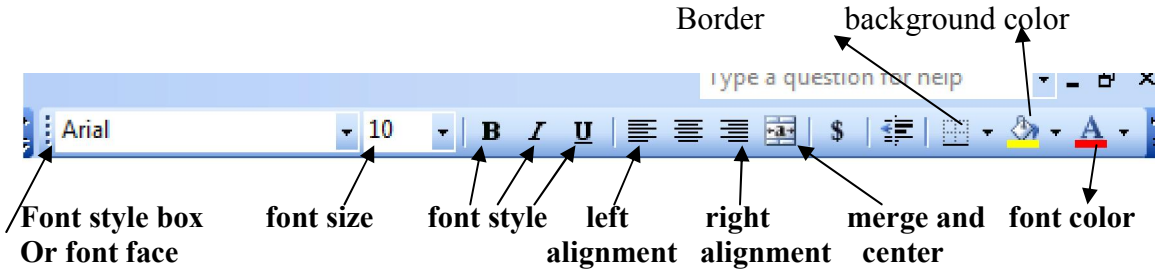
Some Excel terminologies

- **Workbooks:** collection on one or more individual worksheets
- **Worksheet:** they resemble page in a spiral bound workbook like the ones you purchase and use to take class notes
- **Cells reference:** A cell's identification consisting of its column letter and followed by row number
- **Relative cell reference:** a cell reference in formulas that change when excel copies them to another location
- **Active cells:** the cell in which you are currently working
- **Active sheet:** a sheet that is selected
- **Function:** a built-in or prerecorded formula that provides a shortcut for complex calculations.
- **Range of cell:** one or more cells that form a rectangular group

Lo2 Develop a linked spreadsheet solution

Formatting data on spreadsheet

Formatting the worksheet is the process of altering or changing the appearance of data in one or more worksheet cells. Formatting is purely cosmetic-changing only the appearance, not the contents of the formula, values or texts stored in the cells. This only changes the font size, color, style of text or values.



This figure is the formatting toolbar

Using formulas on spreadsheet or excel

Formulas are one of the most commonly used features of Excel. They can be used to carry out simple addition and subtraction or far more complex mathematical calculations. **Formulas begin with an equal sign.**

All formulas in Excel, no matter how complex, always begin with the same steps as follows:

- Click on the cell where you want the formula's result to be displayed or select the cell in which you want to type a formula
- Type an equal sign (=) to let Excel know you are creating a formula.
- Type cell references in either uppercase or lower case or use the mouse or the arrow keys to select cells as you type the formula
- Press the enter key to complete the formula

Many formulas in Excel perform basic mathematical calculations such as subtraction and multiplication.
For these formulas, after the steps listed above, we only need to add, in the correct order, the data to be used in the calculations and the mathematical operators that tell Excel which mathematical operation to perform.

Using Cell References in Formulas

Rather than enter the data directly into a formula, it is better to enter the cell references where the data is located into the formula.
The advantages of this are that:
If you later change your data the formula automatically updates to show the new result in certain instances, using cell references makes it possible to copy formulas from one location to another in a worksheet. The easiest and best way to add cell references to a formula is to use pointing, which means to click with the mouse pointer on the cell containing the data you want added to the formula.

Arithmetic operator	**operator's name**	**example formula**
( )	parentheses	=(1+B4)/B20
^	exponentiation	=E4^6 or power (4,6)
*	multiplication	=B4*D4
/	Division	=A10/B10
+	sum or addition	=A5+A9
-	subtraction	=A6-A7
N^2	power	=power(number,power)
$\sqrt{x}$	square root	= sqrt(number)

- **Functions**

Spreadsheets usually contain a number of supplied functions, such as **arithmetic** operations (for example, **sum, averages, maximum, minimum** and so forth), **statistical functions**, and so forth. In addition there is often a provision for user-defined functions.
Example, =average (A1:A6), =sum (A2:D6) and so on

Practice the table below on excel

	A	B	C	D	E
1	axum polytechnic college teachers part time wage analysis				
2					
3	7.75	current hourly rate			
4	8.5	proposed hourly rate			
5					
6	name	hours per week	weekly current wage	weekly proposed wage	wage difference
7	Belay Meresa	12			
8	Mesfin Teshale	10			
9	Helen Berhe	8			
10	Gidey Senay	15			
11	Melaku Fenta	9			
12	sum				
13	average				
14	max				
15	min				

Instruction

1. Calculate the current, proposed an wage difference of each employees
2. Calculate the sum, average, maximum and minimum hours and wages horizontally

The Excel IF function checks to see if a certain condition is true or false. If the condition is true, the function will do one thing, if the condition is false, the function will do something else.

The **IF function** we are using in this tutorial asks if the value in column A is greater than the value in column B. If it is, the IF function will place the statement "A is larger" in column D. If it is not, the IF function will place the statement "B is larger" in column D.

Our IF function will be entered into cell D1 on excel worksheet and it looks like this: =IF(A3 >B3,"A is larger","B is larger"). Hence, to see theif function,compare the columns on the table below as instructed under column D on excel worksheet.

Column A	Column B	Column C	Column D	Column E
250	500	350	Compare column A1 and B1	
300	600	400	Compare column A1 and C2	
200	150	360	Compare column A3 and B2	

Example:

The result is **B is larger** because A1 (250) is not greater than B1 (500) in the above worksheet.

N.B: the two text statements "A is larger" and "B is larger" should be enclosed in double quotations. In order to add text to an Excel IF Function, it must be enclosed in quotation marks.

If you want to make grade for a subject with a give mark list you should follow this formula. =IF(A1> =90,"A" ,IF(A1> =80,"B" ,"C")). In plain English this formula says: if the value of cell A1 is equal or higher than 90 the result/grade in the cell where this formula resides is the capital letter "A" , if the value in cell A1 is 80 or greater then the result is "B" else the result is "C" .

Examples of Basic Excel

IF

The basic IF formula looks like this =IF(A1=100,9,8). In plain English it means if the value of cell A1 is 100 the value in which this formulas resides is 9 otherwise it is 8.

If functions: function is built in formula on excel. Using if function we can calculate payroll tax and assign grades. Example, if Helen's monthly earning is 2400 birr and it is found on column 4 and row 2, income tax for Helen can be calculated as follows:

=if(D2<=150,0,if(D2<=650,D2*10%-15,if(D2<=1400,D2*15%-47.5,if(D2<=2350,D2*20%-117.5,if(d2<=3550,D2*25%-235,if(D2<=5000,D2*30%-412.5,if(D2>5000,D2*35%-662.5)))))))

=365 birr

	A	B	C	D	E	F	G	H	I	J
1	axum polytechnic college monthly payroll payment									
2										
3										
4										
5		earning				deductions				
6	name of employees	basic salary	allowance	over time	gross earning	pension	tax	for abay	total deduction	net pay
7	Belay Meresa	1500	250	850						
8	Mesfin Teshale	2500	300	950						
9	Helen Berhe	2000		2000						
10	Gidey Senay	1400	500	500						
11	Melaku Fenta	950	200	1500						
12	Hagos G/her	3000	200	250						
13	Timnit Seyfu	4500	150							
14	Mulu Gidey	5000								
15	samrawit Nigus	850		600						
16	total									

Instruction

1. Calculate gross earning, pension, tax, other deduction and net pay

   N.B for tax use the above formula, deduction for Abay 7% of basic salary and pension for permanent employees is 6% but Samrawit is a contract worker

Preparation of students' grade report

no	Title of subjects	Credit hours	Grade in letter	Grade points	remark
1	Maths	3	B		
2	English	2	A		
3	Biology	4	C		
4	Chemistry	3	F		
5	Physics	2	D		
	total				
	Cumulative grade points				

Instruction:

1. **Calculate the grade points for each subject**
2. **Calculate the cumulative grade points**

SUM

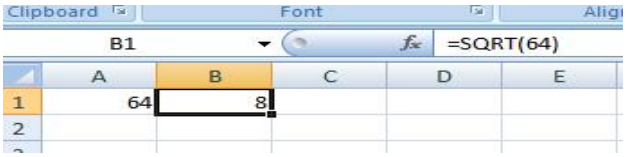
=SUM(A1,B6,G6) or **=SUM(A1+B6+G6)** will return the sum of the values in cells A1, B6 and G6

=SUM(A1:A23) will return the sum of the values in cells A1 to A23

=SUM(A1:A23,F3:F34) will return the sum of the values in cells A1 to A23 plus the sum of the values in cells F3 to F34

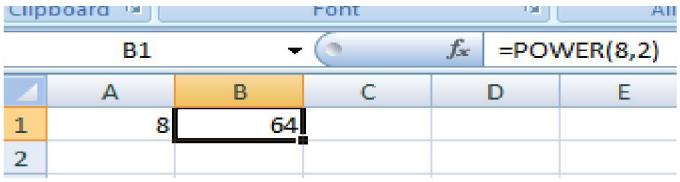
SQRT

To extract the square root of a number you will use a formula like:
=SQRT(16) that will result in 4 because 4 multiplied by 4 is 16 or
=SQRT(A1) that will also result in 4 if the value in cell A1 is 16.



POWER

You can raise a number to a power (multiplying it by itself a certain number of times with this function. Hence:
=POWER(4,2) will result in 16 (4 times 4) or
=POWER(A1,2) will also result in 16 if the value in cell A1 is 4.



LARGE, SMALL, average, maximum, minimum etc

Example:

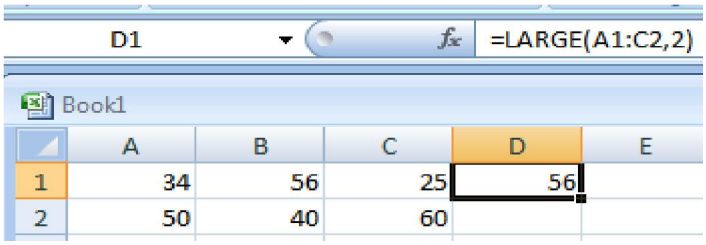
If you want the second or third largest value or the second smallest value,use LARGE and SMALL like this:

=LARGE(A1:A5,2), =LARGE(A1:A5,3), =SMALL(A1:A5,2)

As a matter of facts you can forget about MIN and MAX with:

=LARGE(A1:A5,1), =SMALL(A1:A5,1)

Example:



In the above example A1:C2 is range of cells and 2 is column number. So 56 is the lager number in column 2. If we want to see the small number only we change the word large by small.

Exercise: prepare grade report for the following students

NO	name	Maths	English	Tigrigna	Average	Grade1	Grade2	Grade3
1	AbebaBelete	90	85	80				
2	Belay Berhe	85	91	65				

3	Helen Tsegay	74	78	75				
4	Saba Mesfin	82	62	84				
5	Temesgen Belay	55	49	58				

Instruction

2. Calculate average
3. Make grade for each subject and students using if functions
4. Make the column heading font size is 18, bold italicand green color

Self check 2

1. What does it mean spread sheet?
2. Columns and rows are defined by _____ and _____ respectively.
3. Cells are defined by the _____ and _____ at which they intersect.
4. _____ is a working area that you can store, manipulate, calculate, and analyze data.
5. ____are defined by the column and row at which they intersect.

Model answer 2

1. Spread sheetis a software program that allows users to enter and manipulate data.
2. Letter and number
3. Column and rows
4. Worksheet
5. cells

Operation sheet 2.1OPERATION TITLE:using spread sheet

PURPOSE:the purpose of the operation sheet is to show all necessary conditions and steps in using spread sheet.

CONDITIONS OR SITUATIONS FOR THE OPERATIONS: before starting using spread sheet first identify the task and organization requirements on layout of the data and data presentations and other all things to be completed.

EQUIPMENT TOOLS AND MATERIALS: Computer, excel Microsoft office

PROCEDURE:Choose New from the file menu in 2003 or on office button on 2007 Microsoft office

- **Select blank workbook**
- **MS-Excel displays the new worksheet in a new window**
- **Now we can enter, check and amend data on the work sheet**

The data that can be entered in the work sheet, checked, and amended may be number or text. Entering data is simple. Hence, in order to enter data:

- Locate the cell in which the data is to be placed (a box should be highlighted or selected) that is the active cell.
- Type the data
- Press enter or click out of the cell when you finished your work or action.
- Check the accuracy of the data
- If necessary amend it or correct it or change their font size, style color and so on.

PRECAUTIONS: Be careful from touching any electric power and save your documents properly before you close your program.

QUALITY CRITERIA: layout, format and presentation of data should be acceptable.

Self check questions

1. _____changes the appearance of the data.

   A. Menu bar B. formatting tool bar C. standard tool bar D. all

2. Out of the following alternatives a valid formula on excel

   A. B2+C2 B. A1*B1 C. =C2+D2 D. All E. none

3. An active cell's content is displayed in the:

   A. Menu bar B. formula bar c. little bar D. scroll box E. none

Model answer

1. B 2. C 3. B

Lo3:- Automate and standardize spreadsheet operation

Microsoft Office Excel supports to use or create numerous **types of charts** to **help you display data in ways that are meaningful to your audience or users of your data**. Chart enables you to compare your data easily by graphs. When you want to create a chart or change an existing chart, you can choose from a wide range of chart subtypes available on excel. In addition, you can also **modify** the chart type and its layout using **formatting features**. In order to create a chart first you should create a table and use the steps below.

On excel 2007 follow the steps are to create a **columnar chart**

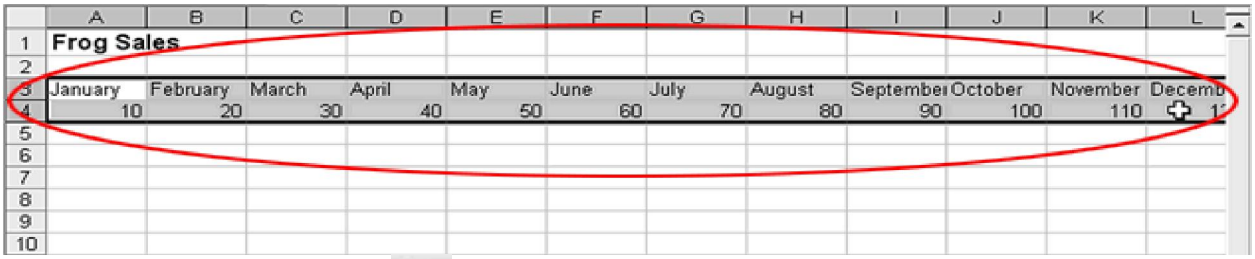
- Enter the data below

	A	B	C	D	E	F	G	H	I	J	K	L
1	frog sales											
2	january	february	march	april	may	june	july	august	septembe	october	novembe	december
3	10	20	30	40	50	60	70	80	90	100	110	120
4												
5												
6												
7												

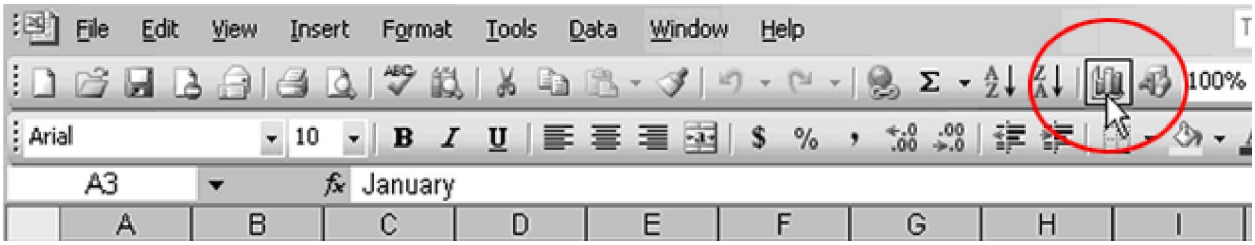
- Select the data or range of cells that you want to use for creating chart
- Click on insert memu and **click on column** in chart control group
- From 2-D Select the first one
- From the layout tab you can edit the title of the chart, horizontal axis, vertical axis and legend as you want.

Create a table using the figure below to create a chart on excel 2003 using the steps below

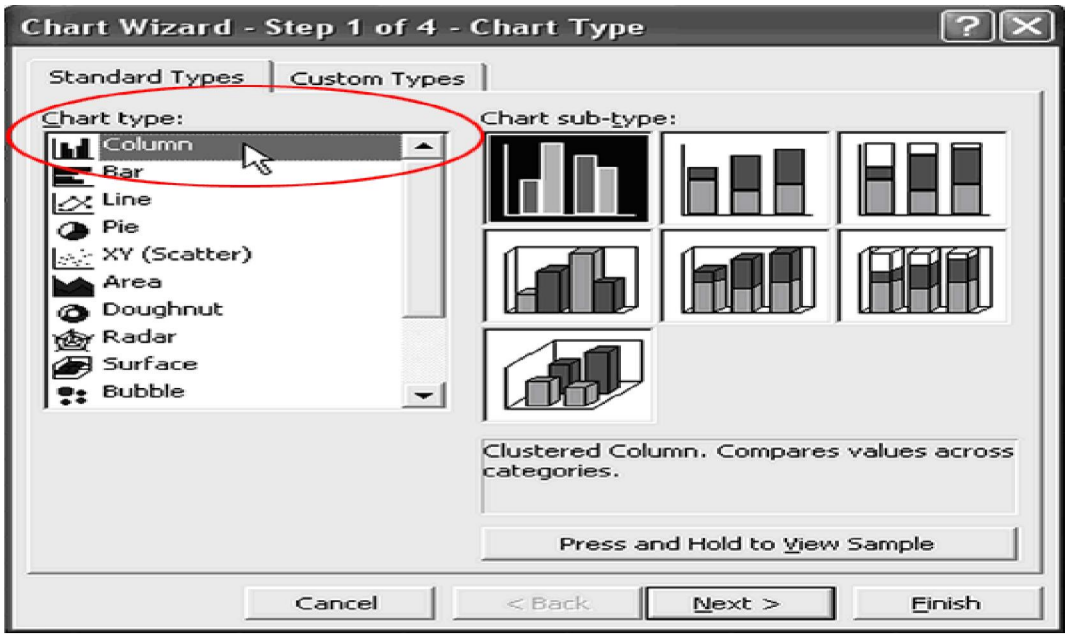
1. In the Sales worksheet, highlight cells A3 through L4.



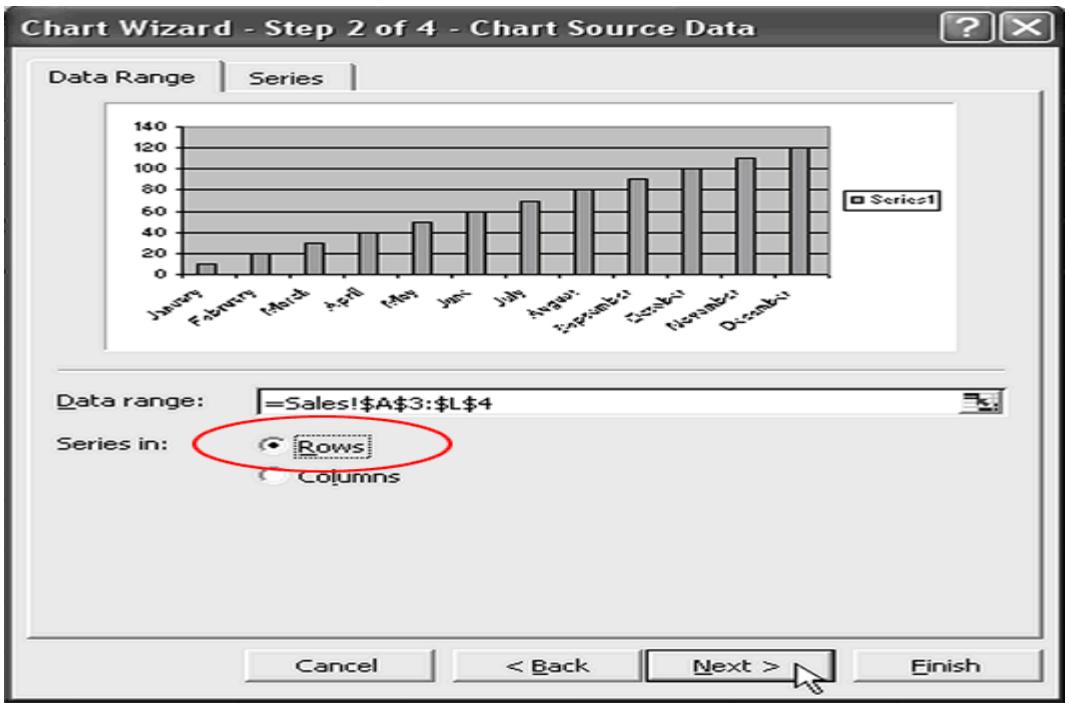
2. On the Toolbar, click the  icon.



3. When the Chart Wizard window appears, click Column in the Chart Type list.

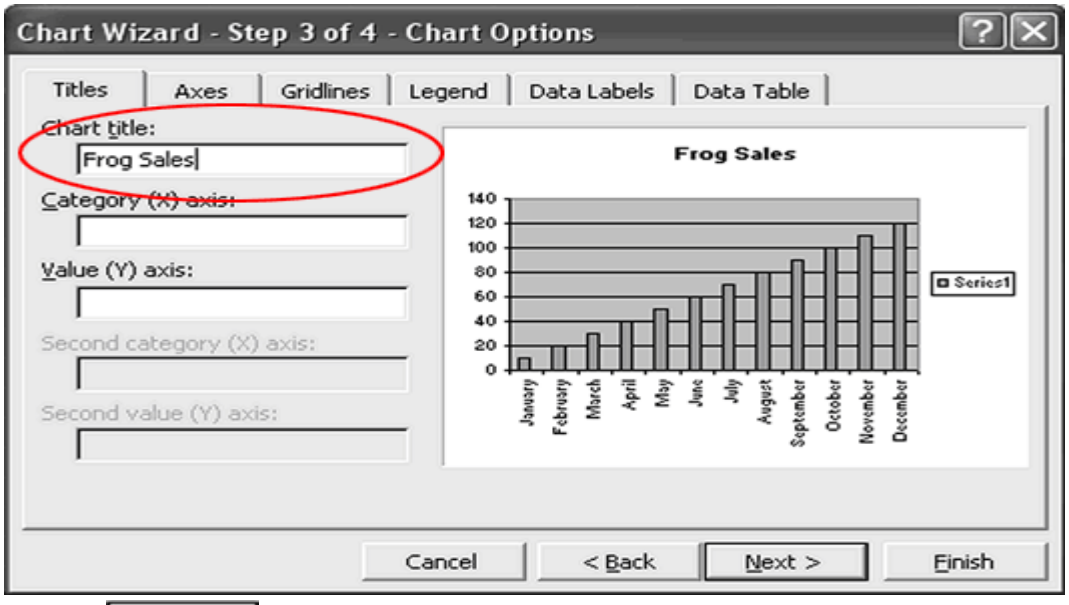


4. Click the  button.
5. In the next step, make sure the Rows button is clicked which is the data source or values.



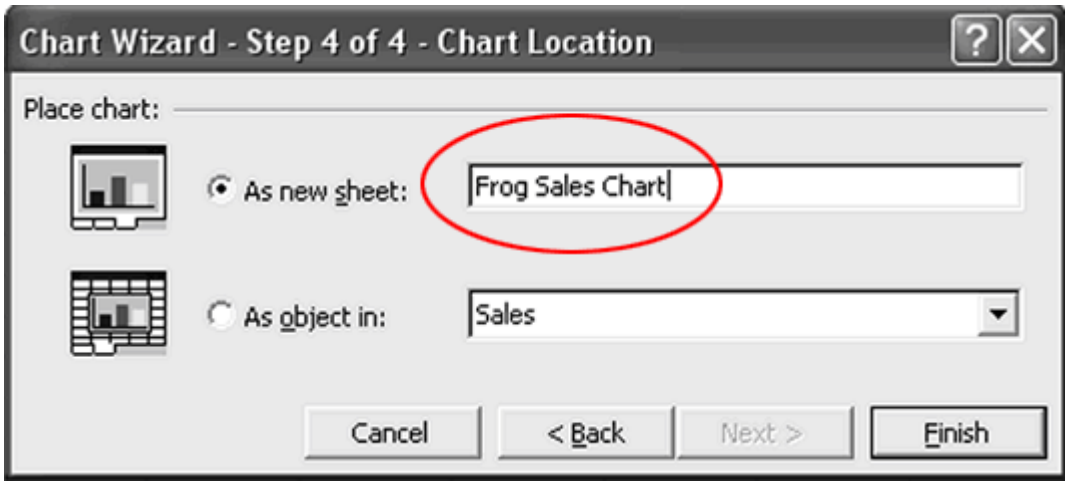
Then click the  button.

6. In the next step or **chart option** dialog box, click the Titles tab, then type:
   Frog Sales in the **Chart title box**. You can also add **category axis**, **vertical axis** and **data label** on this dialog box.



7. Click the  button.

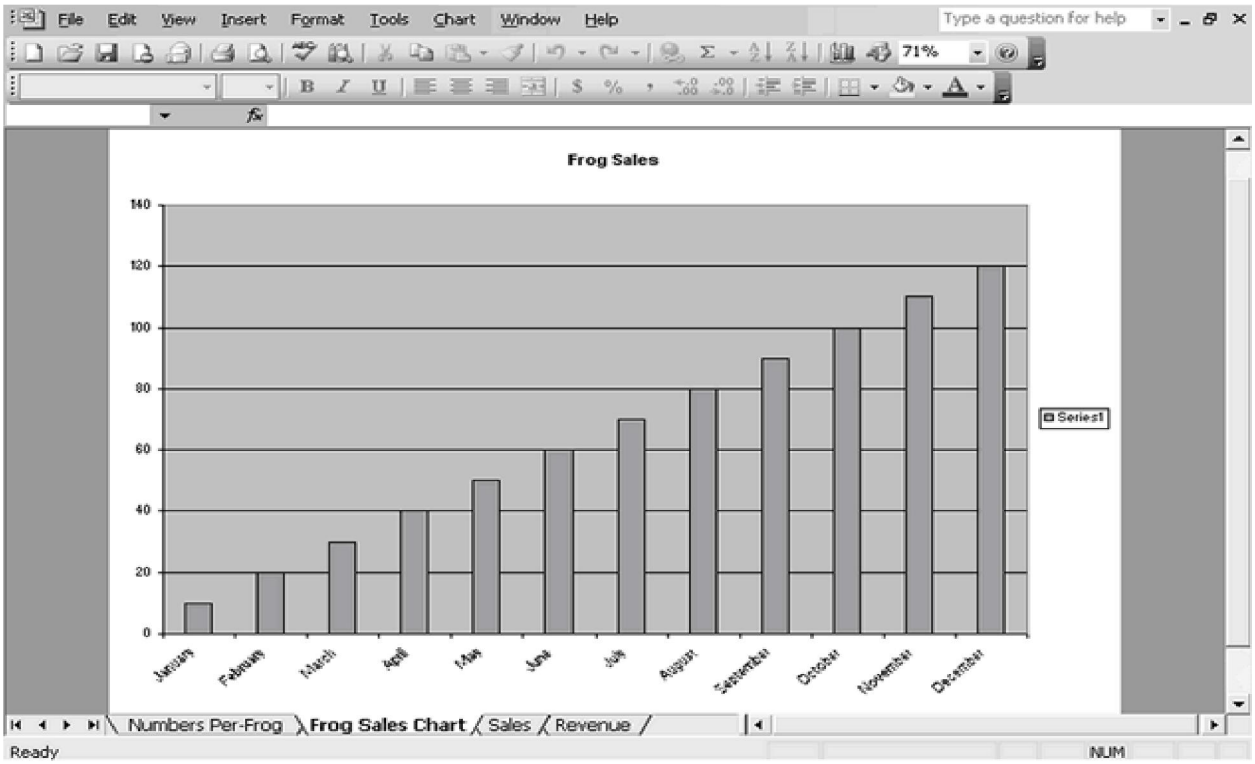
8. In the next step, click the As new sheet button to move the chart into a new sheet with out the data but if you check the As object in option box the chart can be embedded chart. We can see the chart and its data on a single worksheet or page.
9. In the box beside it, type: Frog Sales Chart



This dialog box comes in the fourth step on Microsoft excel 2003 but on 2007 you can move the chart into new sheet by clicking the **design tab** and **move chart** button at the right corner of the windows.

10. Click the Finish button.

    The chart should appear as:



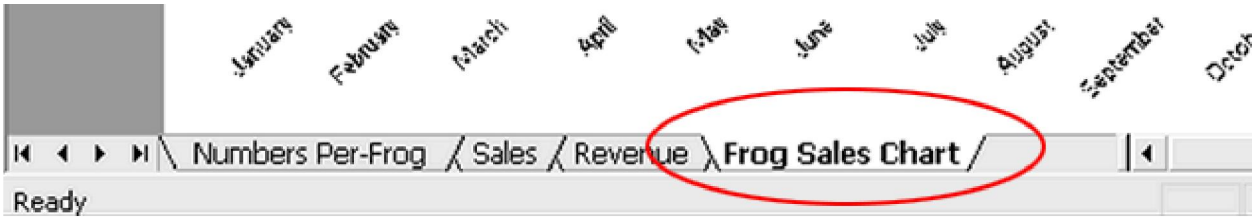
- **This is a new sheet chart**

11. Click the Frog Sales Chart tab and drag it to the end of the tabs.

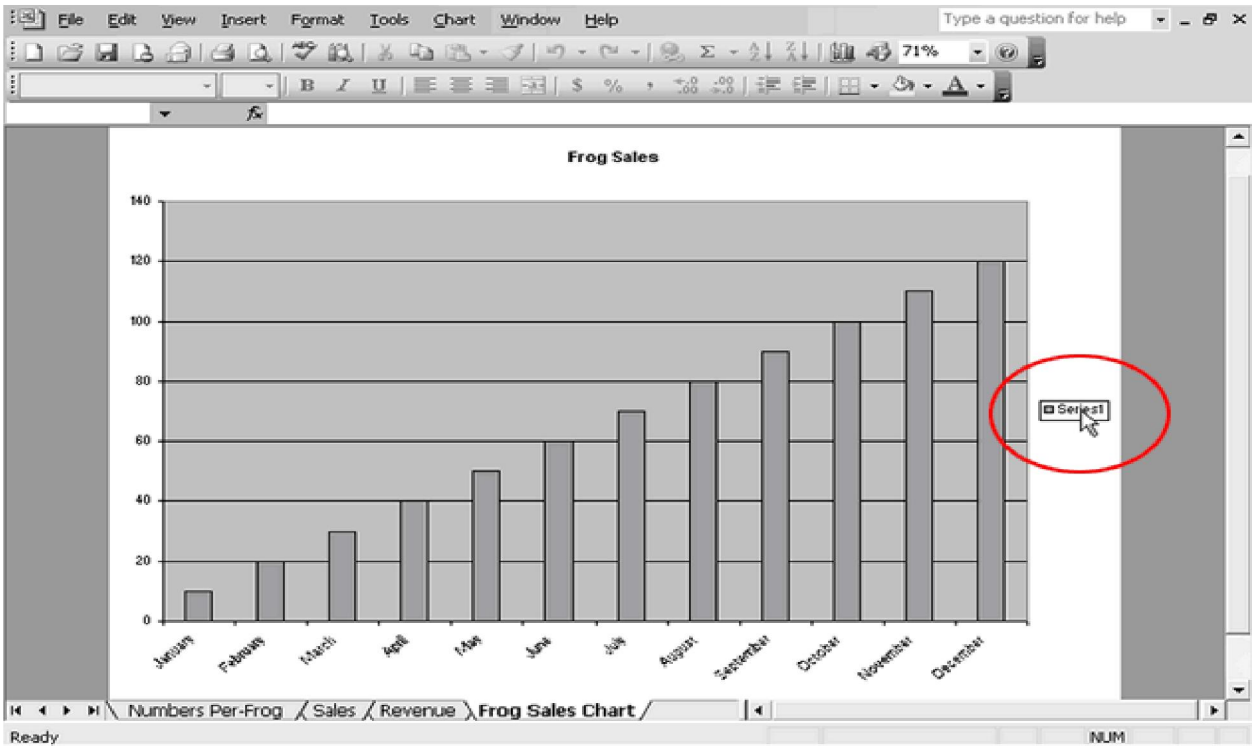


12. Release the mouse button.

    It should be last in the list of tabs:

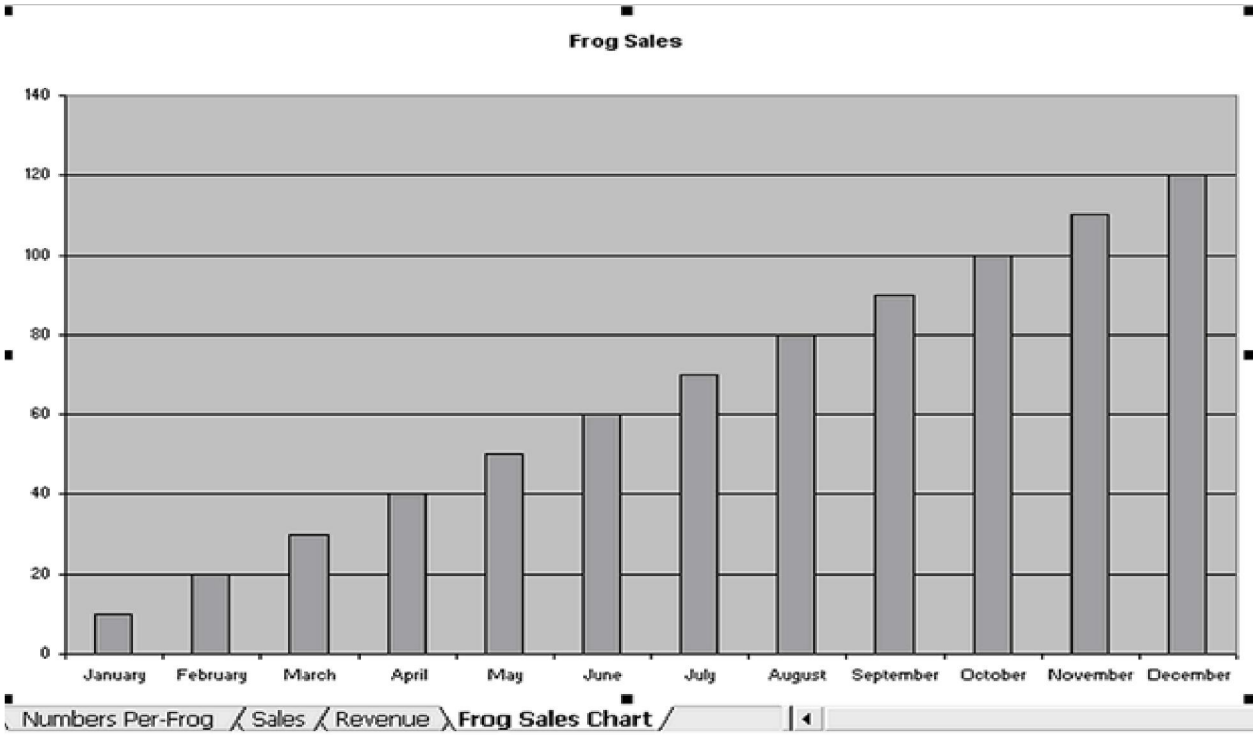


13. To remove the legend, click the legend.



14. Press DELETE.

    The chart should look like this:



Exercise 1

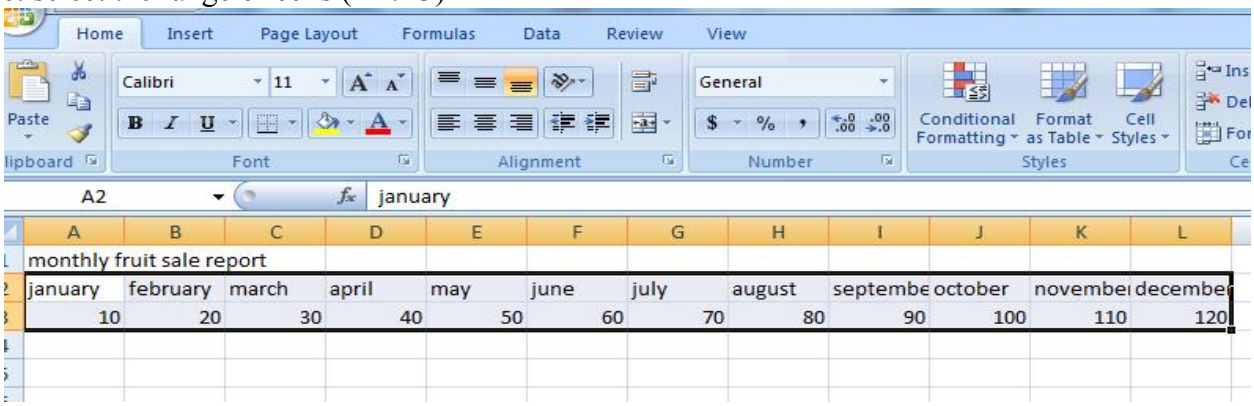
	A	B	C	D	E	F
1	first quarter Regional Income (in Million Birr)					
2	Regions	January	February	March		
3	Region 1	150	120	155		
4	Region 2	50	45	50		
5	Region 3	250	270	250		
6						
7						

Instruction

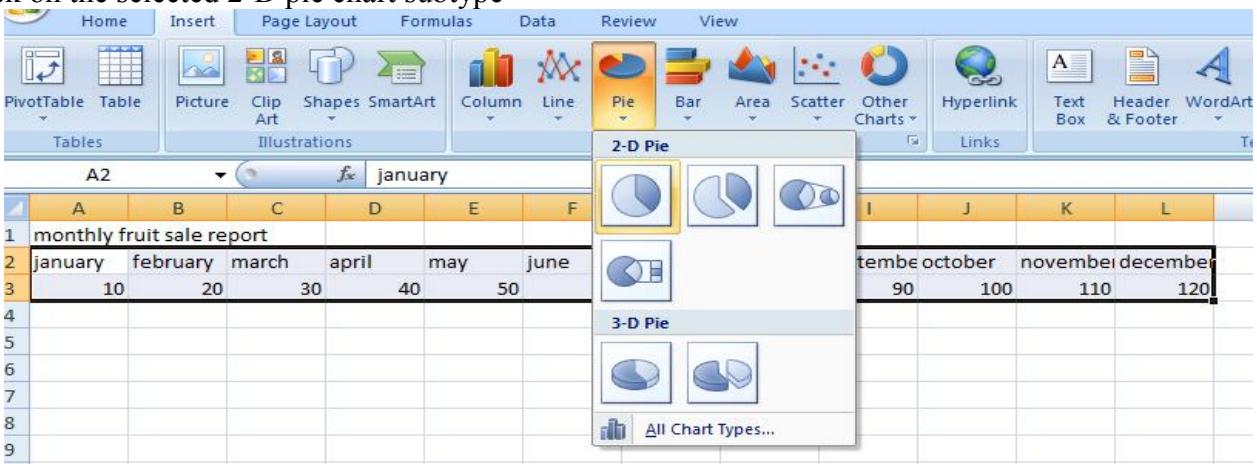
1. Create 2-D columnar chart using the above data
2. Add data labels at a center
3. Move the chart into new sheet
4. Make chart title **first quarter regional income**
5. Make vertical axis **in million birr** and horizontal axis **first Quarter**

Pie chart: pie chart is a type of chart that shows the portion/part of a the whole graph Example of pie chart

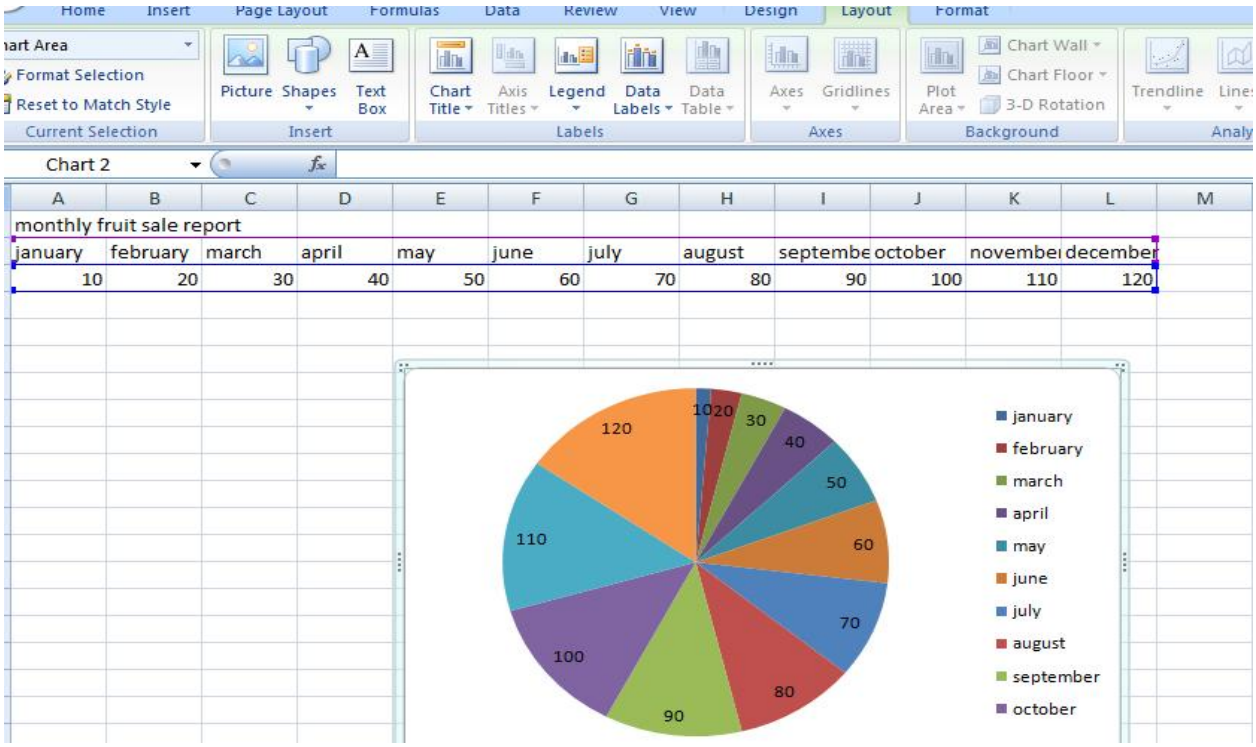
Step one: select the range of cells (A2:L3)



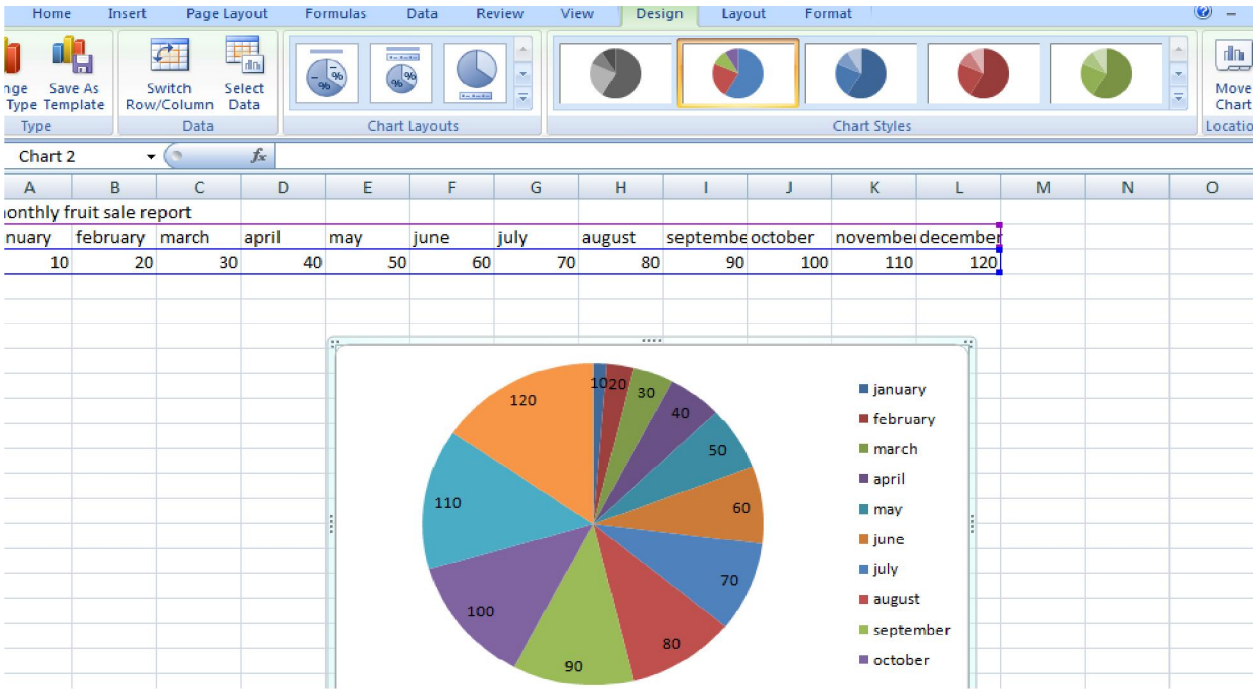
Step two: from the insert menu click the pie chart type and the following figure will be appeared and click on the selected 2-D pie chart subtype



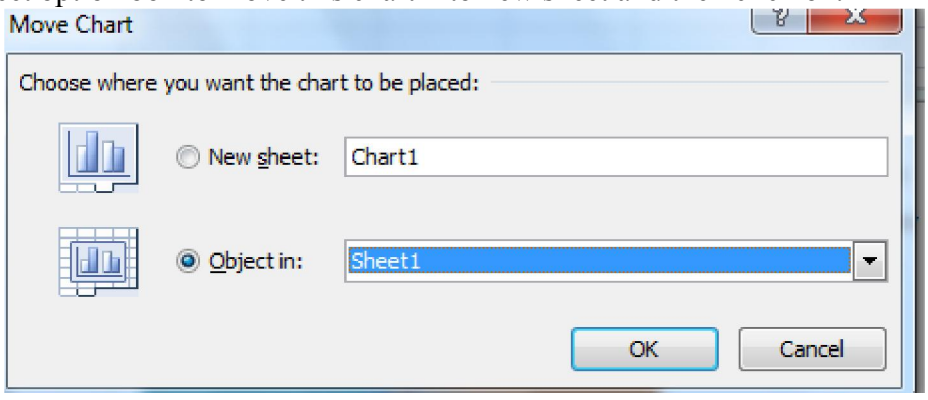
After that the following pie chart will be appeared with data label



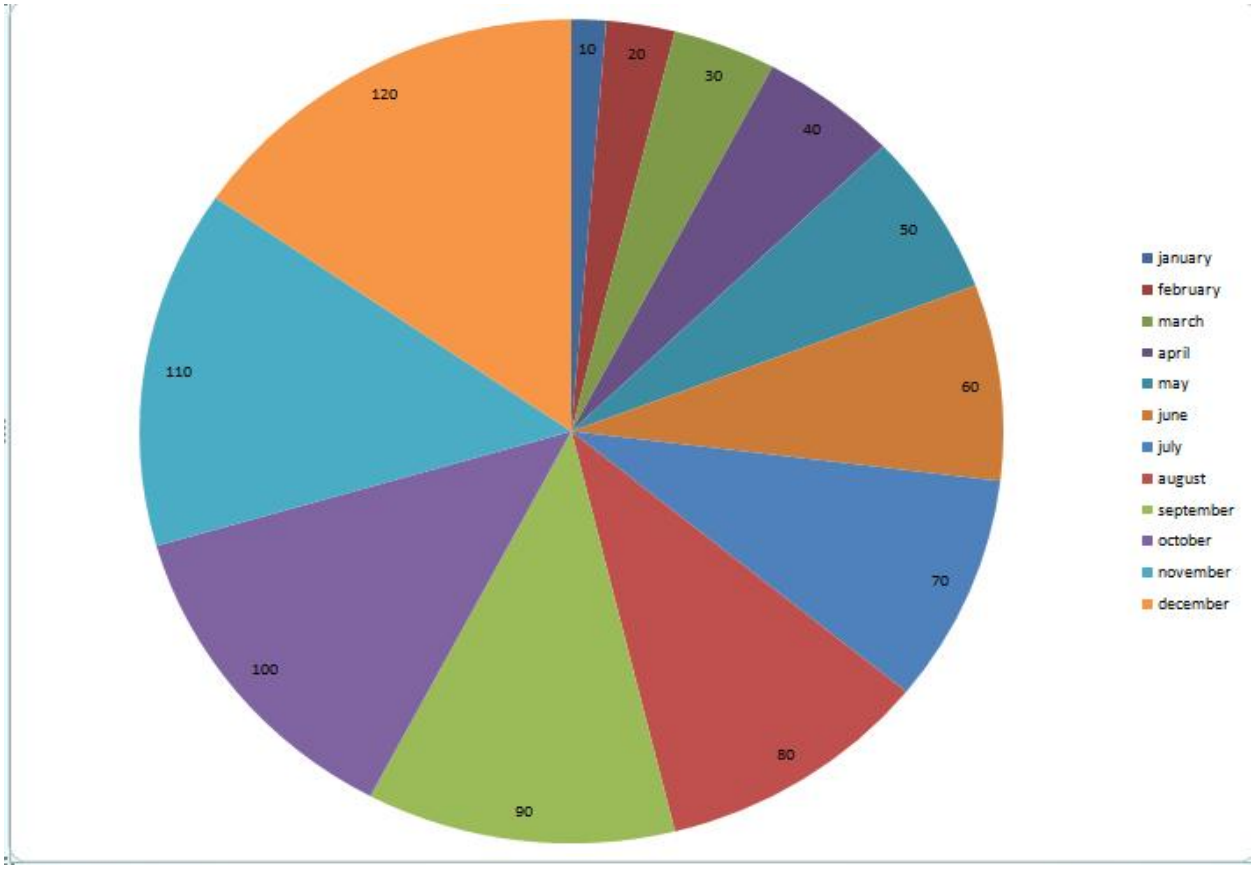
Step three: to move the chart into a new chart sheet click on the design tab and click on the move chart at the right corner to select its location.



When you click the move chart the following location dialog box will be appeared and check the new sheet option box to move this chart into new sheet and then click ok.



The following new sheet chart will be appeared



Exercise 2

	A	B	C	D	E	F
1	first quarter Regional Income (in Million Birr)					
2	Regions	January	February	March		
3	Region 1	150	120	155		
4	Region 2	50	45	50		
5	Region 3	250	270	250		
6						
7						

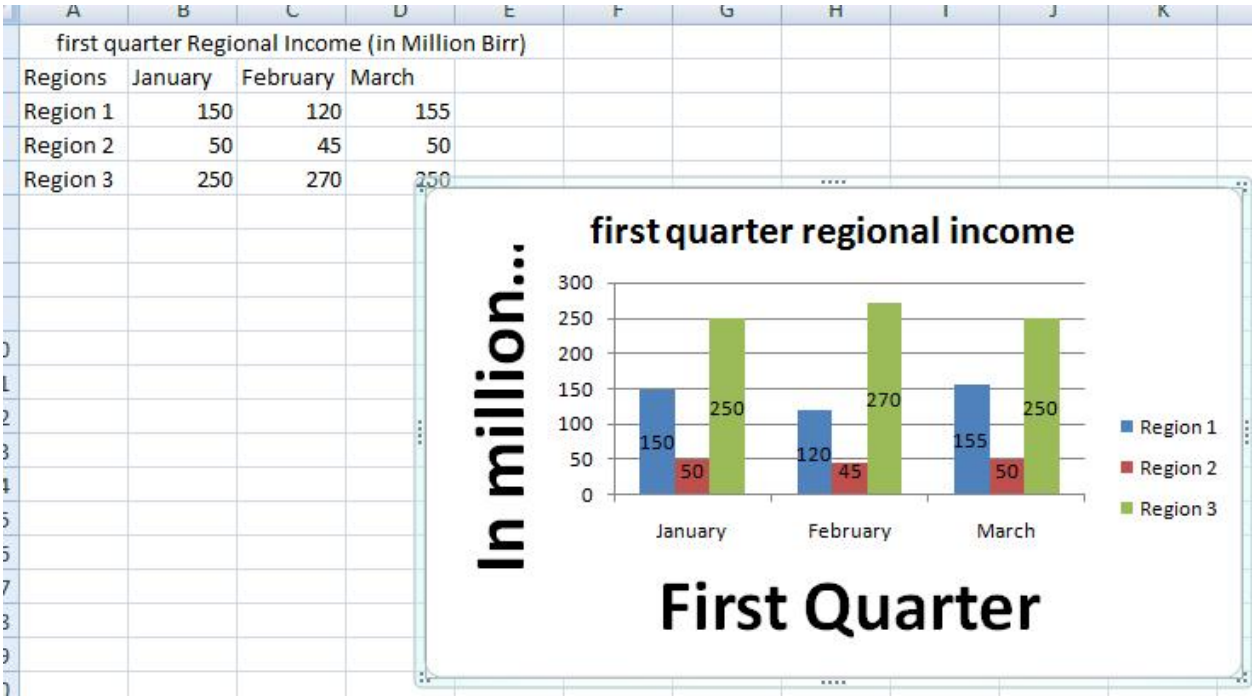
Instruction

1. Create a pie chart for the first quarter regional income using region 1 data
2. Add data labels at a center

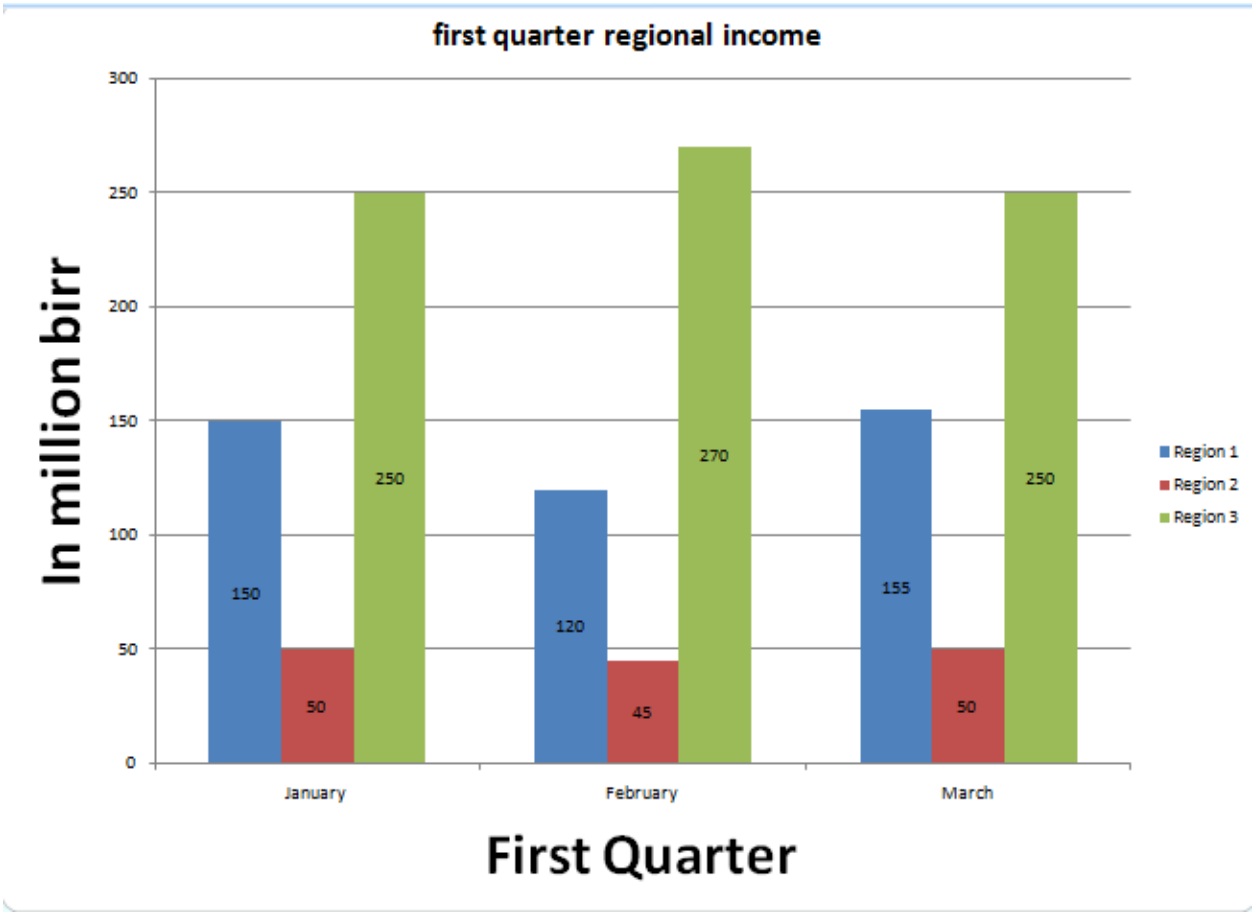
6. Move the chart into new sheet
7. Make chart title first quarter regional income for region 1

Answer sheet for exercise 1 and 2

1. Embedded chart for exercise 1

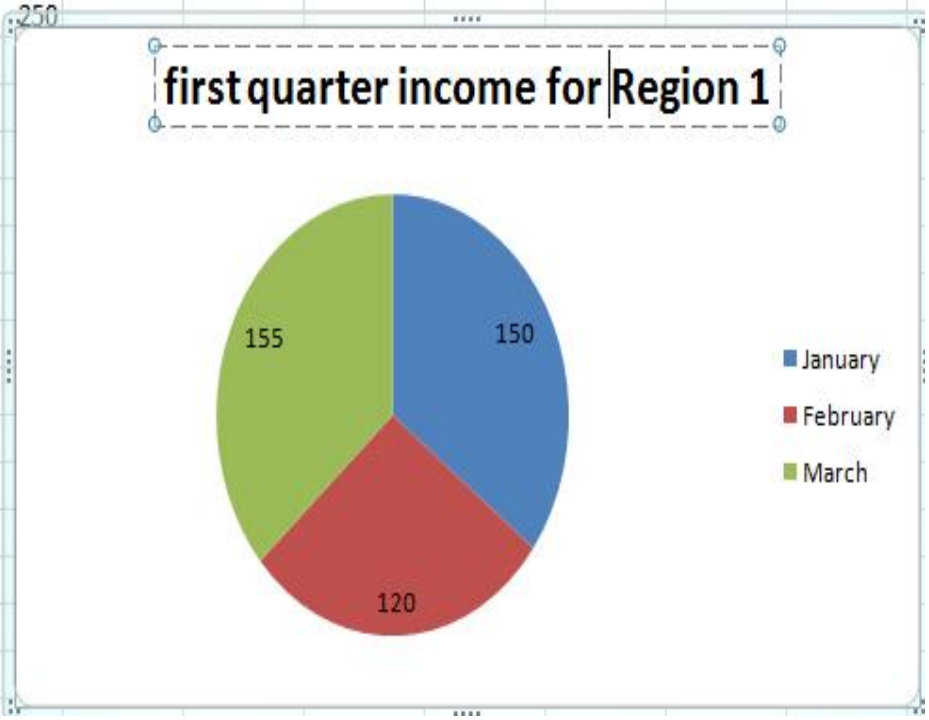


New sheet chart for exercise 1

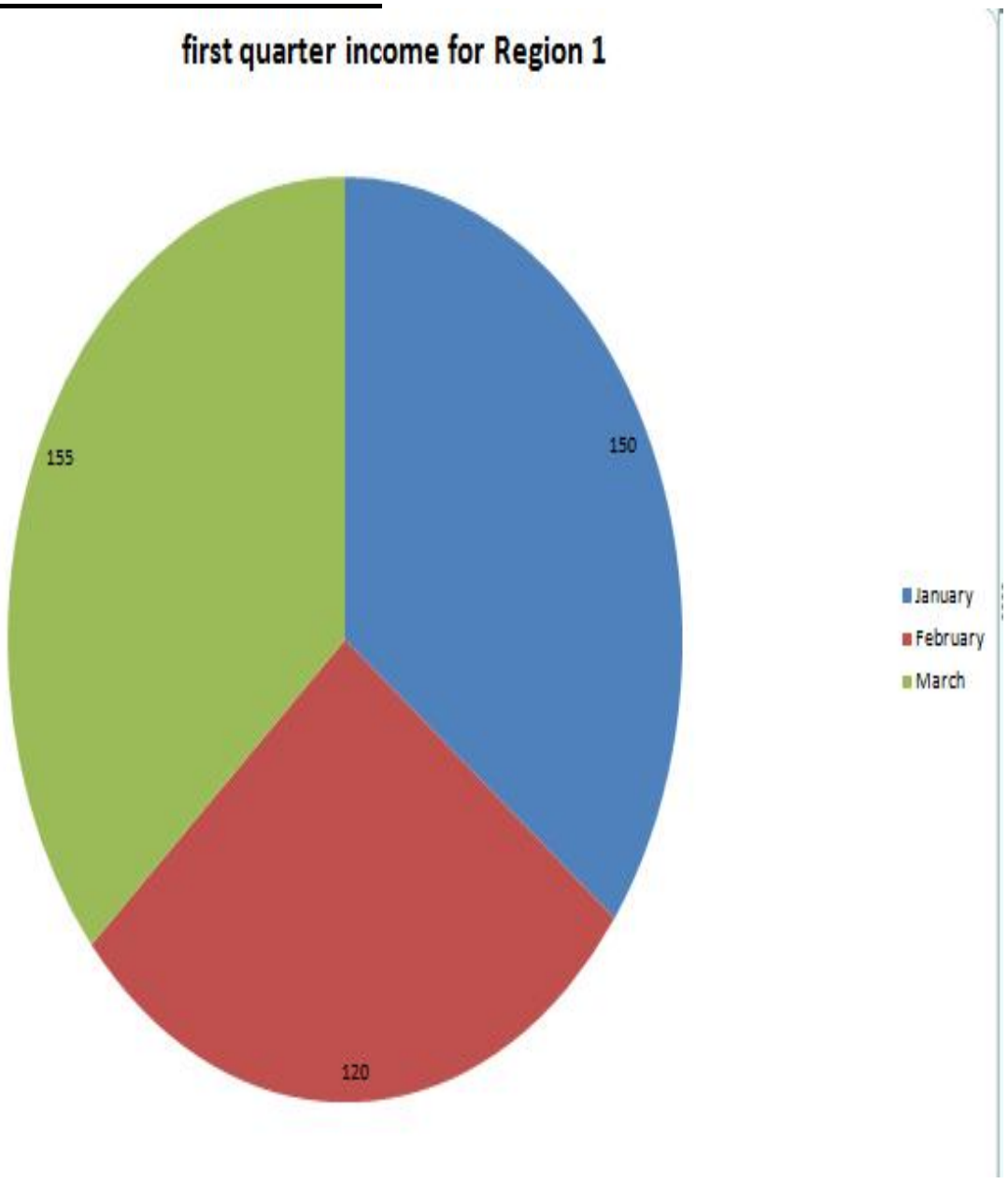

first quarter regional income
In million birr
300
250
200
150
100
50
0
150
50
250
120
45
270
155
50
250
January
February
March
Region 1
Region 2
Region 3
First Quarter

Embedded chart for exercise 2

	A	B	C	D	E	F	G	H	I	J	K
	first quarter Regional Income (in Million Birr)										
	Regions	January	February	March							
	Region 1	150	120	155							
	Region 2	50	45	50							
	Region 3	250	270	250							



New sheet chart for exercise 2



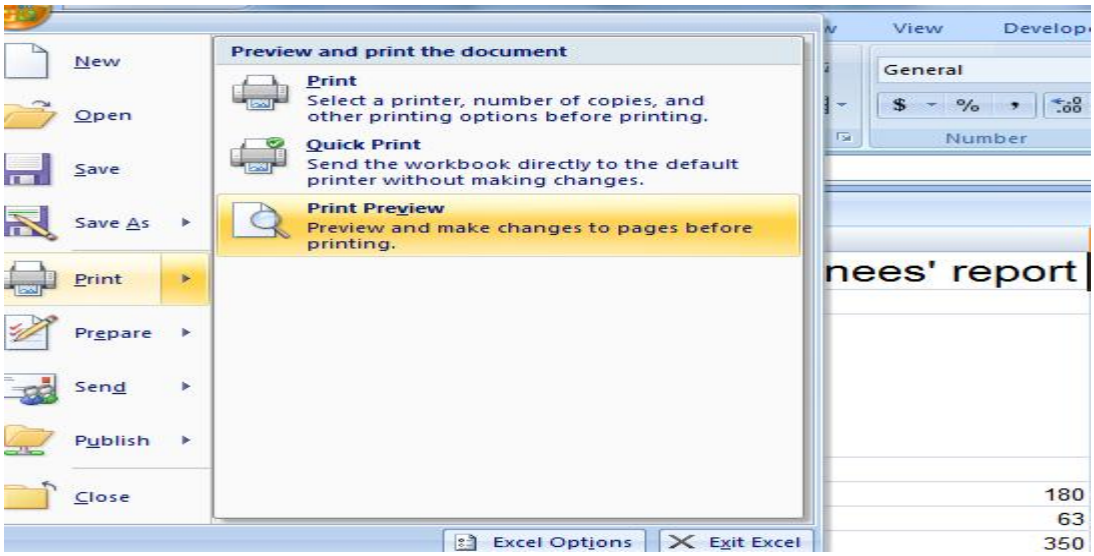
Lo4:- Use spreadsheets

Ensure spreadsheet and any accompanying charts are previewed, adjusted and printed in accordance with organizational and task requirements. All activities should be previewed for the completeness, accuracy, layouts or appearance in consulting with the task requirements and organizational requirements to adjust them and resource availabilities. Based on the task requirements print the material if necessary during that time and this also avoids the technological inconvenience. To print your document you should follow the following steps:

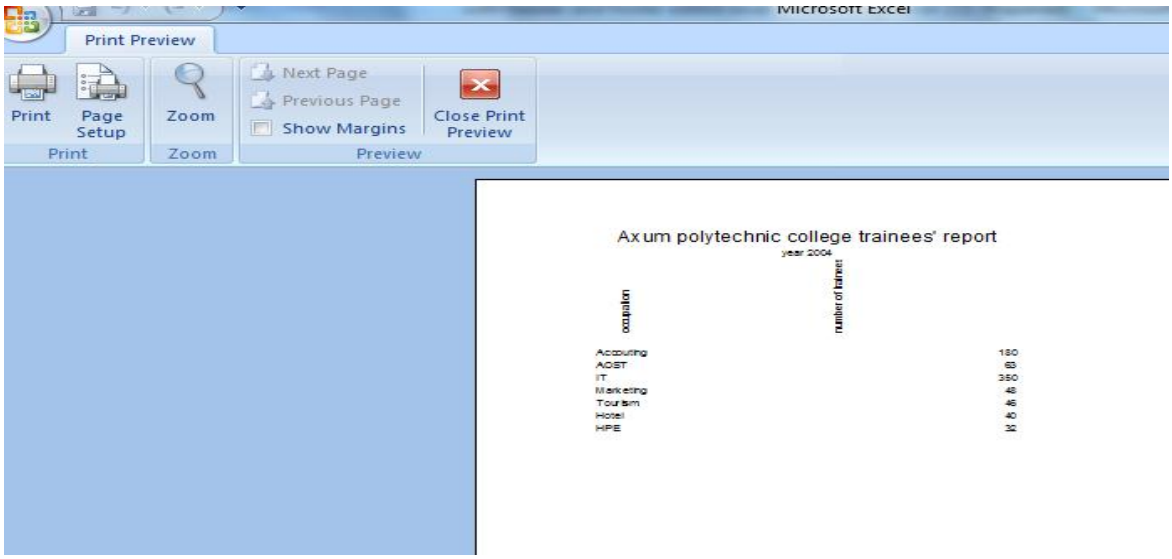
Steps to print preview and print worksheets

- **Print preview of spreadsheet**

- Open the worksheet in the workbook
- Locate to the office button/print/print, print preview 2007/ locate to file in 2003



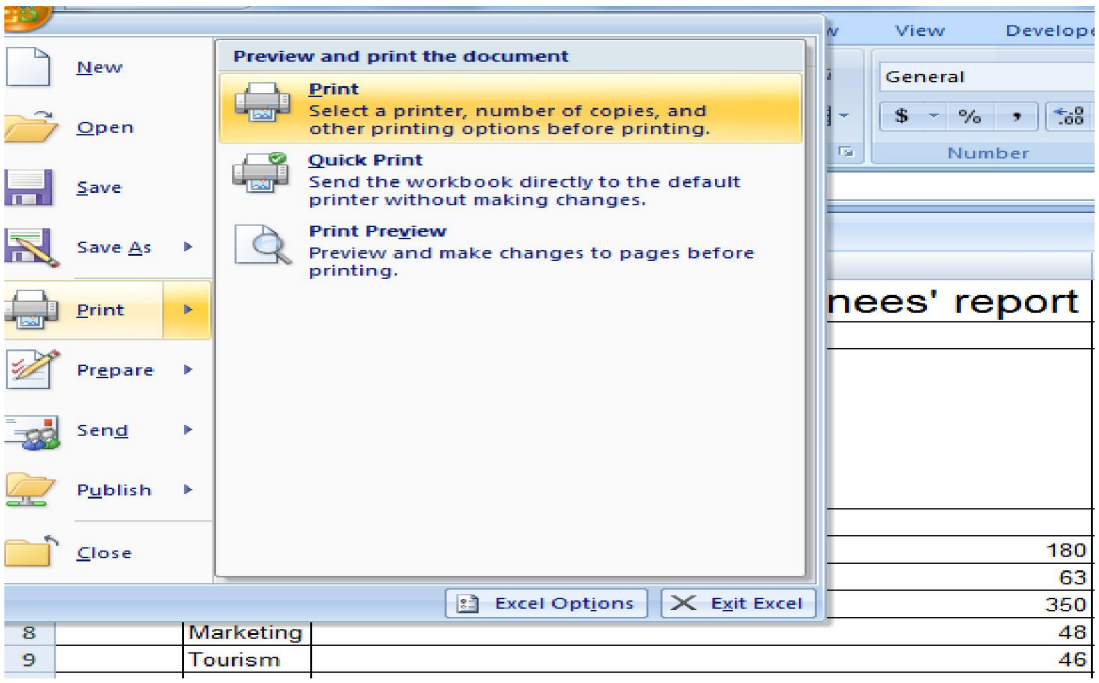
- Select print preview



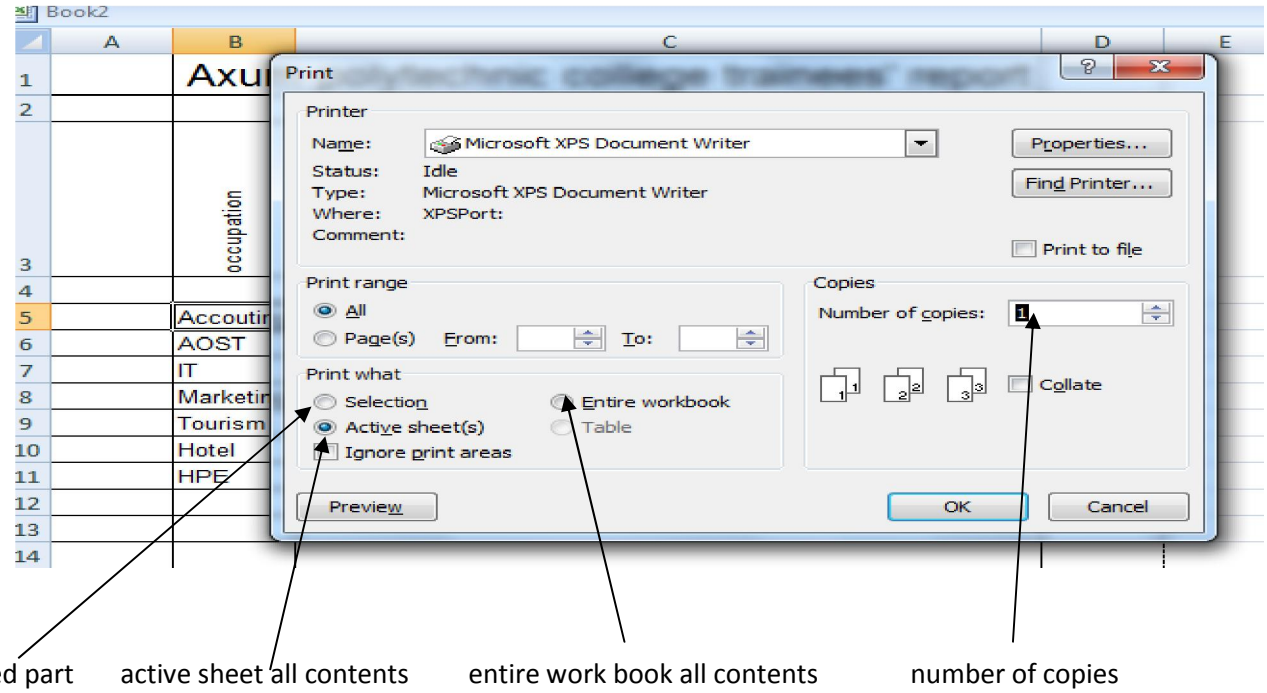
- From the print preview windows you can adjust margin and paper orientations
- When you finish your work you can close the print preview window

❖ Steps of printing spreadsheet

- Open the worksheet in the workbook
- Locate to the office button/print/print, print preview 2007/ locate to file in 2003



- Select print and this dialog box will be appeared



Selected part active sheet all contents entire work book all contents number of copies

TTLM Development Manual	Date: July 2018
	Compiled by: Acct department

- Hence, you can choose all pages if you want to print all pages, range of pages if you want to print some amount of pages, active sheet if you want to print only the active or opened sheet, selection if you want to print the selected range of cells and entire book if you want to print all contents of the whole work book or all worksheets in the work book. N.B you should check type of printer and number of copies before you print the document.
- Click ok

4.2 ensure data input meets designated time lines and organizational requirements for speed and accuracy. This tells us required data is available on time with greater accuracy.
4.3 Name and store spreadsheet in accordance with organizational requirements for next time and exit the application without data loss/damage. After you finished working on Microsoft Excel Workbook, you have to save it before you exit. File name of your work must be **relevant** with your work and **easily identifiable** by every users of the document. To save or store a new workbook or an existing workbook with a new name:

- Choose **save as** from the file menu and the save as dialog box will be displayed.
- Type a name for the file in the **file name box** or accept the proposed name.
- You can use as it is or select different drive or location of your document from the list in the **save in box**.
- Click the **OK** button.
  N.B: be careful the location of your file!

After you have finished your work and stored it in a proper location you can exit from /close your program or windows. To close your program you should follow the following steps:

Use any of the following techniques to close the program after you finished working on it:

- Click on the close(**X**) button in the upper right corner of the program's windows (title bar)
- Make sure the program's windows is active and then press **Alt+F4**
- Choose**File** ⟶ **Exit** from the program's menu bar.
- Right click on the button for the **program group** in the status bar and choose **close**.
- Double click on the **control menu** icon at the upper left corner of the windows.

LAP TEST

LAP TEST	PRACTICAL DEMONSTRATION

Name:_____Date_____
Time started_____time finished_____
Instructions: you are required to perform the following:

1. Axum polytechnic college requires some tasks to perform on excel such as:
   - Creating simple spreadsheet
   - Preparing payroll using formulas
   - Preparing grade reports on excel
   - Creating charts
   - Formatting all documents with the organizational and task requirements
2. Request your trainer for an evaluation and feedback

Selected exercises

1. A credit association gives loan to peasants and the peasants return the money with its interest (interest rate is 10%) the amount of money one peasant can get depends on the number of family he/she has. The money is given based on the following rule.

Number of family members'	amount given (in birr)
1-5	500
6-10	1000
11-15	1500
>15	2000

	A	B	C	D	E
	Family Head	Number of family members	Amount given	interest	amount
1	DawitNigus	4			
2	Helen Senay	1			
3	BerheHagos	6			
4	ShewitMeles	13			
5	SisayTesfay	17			
6	BeleteLema	8			
7	AngesomHiluf	10			
	Average				
	total				

Answer the following questions based on the spreadsheet given above.

a. Calculate the amount given based on the rule given above using if function
b. Calculate the interest using the given interest rate
c. Calculate the amount returned (amount given + interest)
d. Calculate the AVERAGE value of each column
e. Calculate the TOTAL value of each column

2. Hani super market is paying its employees a certain amount of basic salary plus a commission that is based on their performance. The following table shows the monthly basic salary of workers and the total sales by each person in a month. The commission is paid to each worker based on the following rules.
    - If the total sales in a month is less than or equal to 10,000 birr then no commission.
    - If it is more than 10,000 birr and less than or equal to 25,000 birr then a commission of 3% is paid on the amount above 10,000.
    - And finally the commission is increased to 4.5% for the additional amount more than 25,000 birr.

Hani supermarket year 2005				
employee	sex	Basic salary (in birr)	Total sales (in birr)	Gross salary (in birr)
AbebaMeles	F	1500	5000	
DawitNigus	M	600	16000	
Helen Senay	F	1400	35000	
BerheHagos	M	1200	60000	
ShewitMeles	F	1400	24000	
SisayTesfay	M	2000	8000	
BeleteLema	M	1800	15000	
AngesomHiluf	M	1300	21000	
TemesgenNigus	M	1600	28000	
SelamSenay	F	500	17000	
Average				

INSTRUCTION

1.Insert one column between total sales and gross earning and name it as commission
2.Calculate commission based on the above rules.
3.Calculate gross earning (basic salary + commission)
4.Calculate average value of each column
5.Sort the data in descending order of employee
6.Save the file with your name
7.Create a 3-D pie chart that shows gross salary of employees and add data labels

3. Give grades for each students using if function from the table below

no	name	maths mark points	grade
1	Abeba	84	
2	Dawit	91	
3	Helen	72	
4	Berhe	49	
5	Shewit	58	

Instruction: use the criteria below

- If student mark is >=85 his/her grade is “A”
- If student mark is >=75 and <85 his/her grade is “B”
- If student mark is >=65 and <75 his/her grade is “C”
- If student mark is >=50 and <65 his/her grade is “D”

- If student mark is <50 his/her grade is "F"

4. Calculate cumulative grade of the following students

no	name	maths			English			Civic					
		Credit hour	Grade	Grade point	Credit hour	Grade	Grade point	Credit hour	Grade	Grade point	Total CPH	Total	Cummulative
1	Abeba	3	C		2	A		4	D				
2	Dawit	3	B		2	F		4	F				
3	Helen	3	D		2	D		4	A				
4	Berhe	3	A		2	B		4	C				
5	Shewit	3	F		2	C		4	B				

Instruction

1. calculate grade points of each subject for each student
2. add the total credit hours and grade points for each student
3. calculate cumulative grade points for each student

5. preparation of payroll

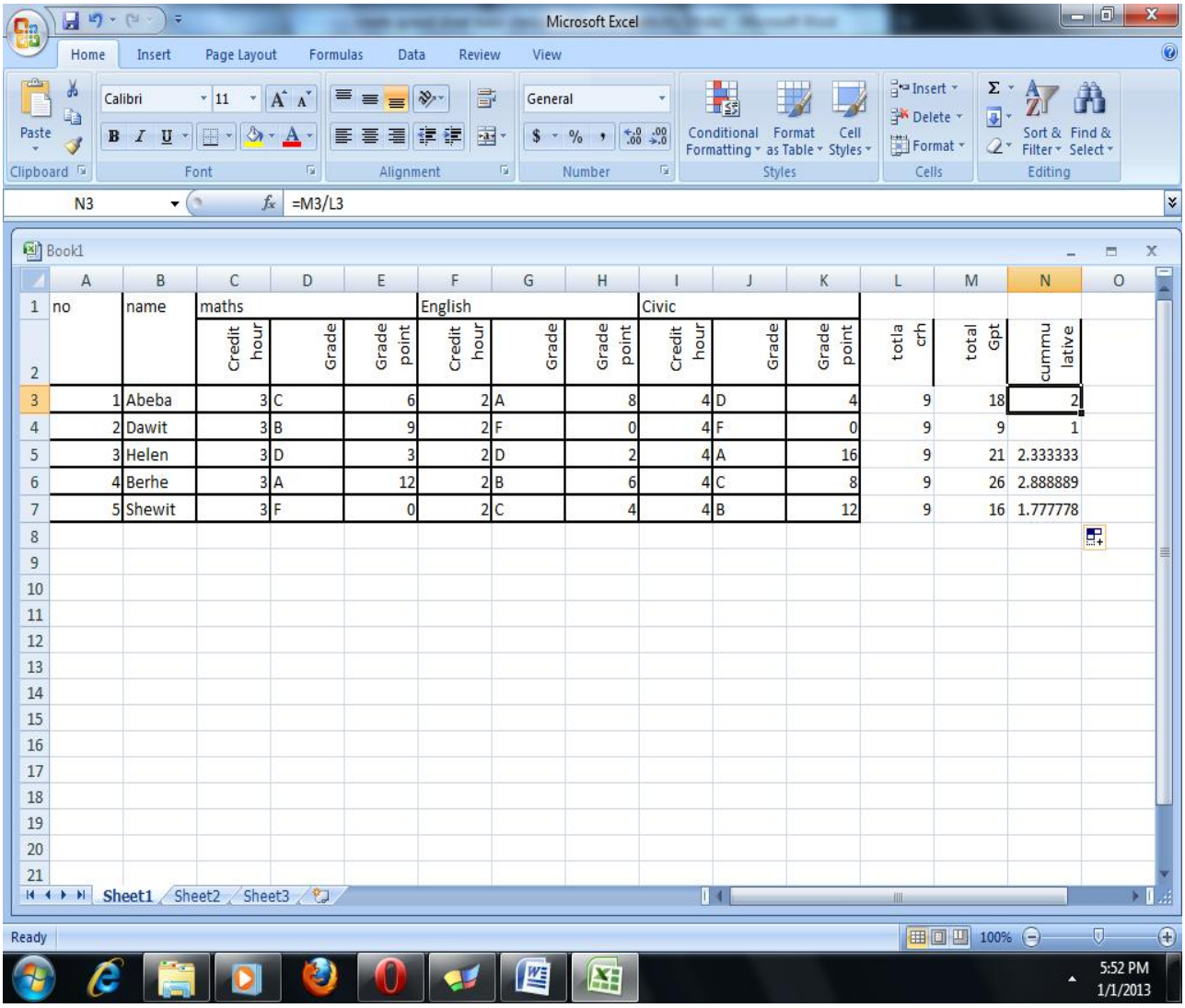
No	name	Basic S.	allowance	Over Time	Gross Earning	pension	tax	Other deduction	Total deduction	Net pay
1	Abeba	1500	250	1500						
2	Dawit	1200	500	500						
3	Helen	1550								
4	Berhe	900	300	800						
5	Shewit	1400								
6	senay	2500		300						
	total									
	average									

Instruction

1. calculate Gross earning, pension 6%, tax in the Ethiopian system, other deduction 4%, total deduction and net pay
2. calculate total and average

N.B Helen is contract worker

Answer sheet for number 4



no	name	maths			English			Civic			totla crh	total Gpt	cummulative
		Credit hour	Grade	Grade point	Credit hour	Grade	Grade point	Credit hour	Grade	Grade point			
1	Abeba	3	C	6	2	A	8	4	D	4	9	18	2
2	Dawit	3	B	9	2	F	0	4	F	0	9	9	1
3	Helen	3	D	3	2	D	2	4	A	16	9	21	2.333333
4	Berhe	3	A	12	2	B	6	4	C	8	9	26	2.888889
5	Shewit	3	F	0	2	C	4	4	B	12	9	16	1.777778