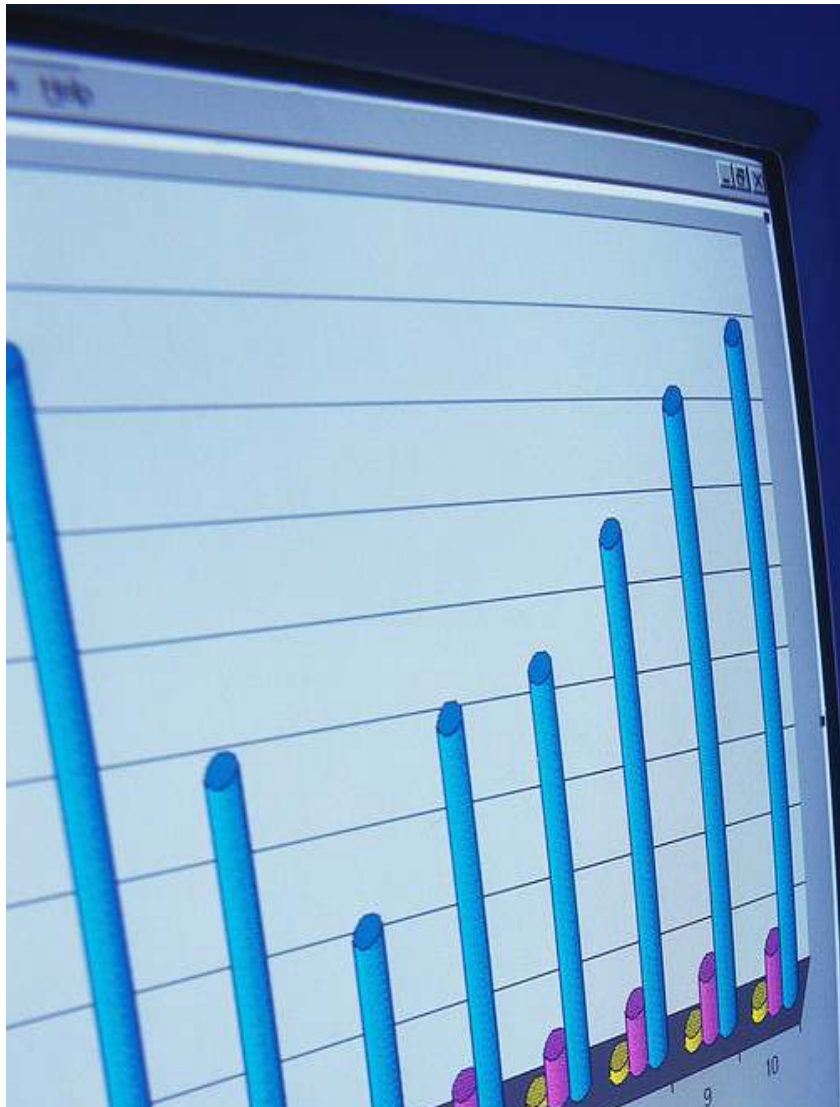




ICA10105
Certificate I in Information Technology



ICAU1130B

Operate a Spreadsheet Application

(30hrs)



ICAU1130B: Operate a Spreadsheet Application

Description

This unit defines the competency required to correctly operate spreadsheet applications and perform basic operations. The following units are linked and form an appropriate cluster: ICAU1128B Operate a personal computer ICAU1129B Operate a word processing application ICAU1131B Operate a database application ICAU1132B Operate a presentation package No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Employability Skills

This unit contains employability skills.

Unit Sector

Use

Performance criteria

Element

1. Create spreadsheets

Performance criteria

- 1.1 Open spreadsheet application and create/open spreadsheet file and enter numbers, text and symbols into cells according to information requirements
- 1.2 Enter simple formulas using cell referencing where required
- 1.3 Correct formulas when error messages occur
- 1.4 Use a range of common **tools** during spreadsheet development
- 1.5 **Edit** columns and rows within the spreadsheet
- 1.6 Use the auto-fill function to increment **data** where required
- 1.7 Save spreadsheet to correct directory or folder

2. Customise basic settings

- 2.1 Adjust page **layout** to meet user requirements or special needs
- 2.2 Open and view different **toolbars**
- 2.3 Change **fontsettings** so they are appropriate for the purpose of the document
- 2.4 Change **alignment** options and line spacing according to spreadsheet **formattingfeatures**
- 2.5 Format cell to display different styles as required
- 2.6 Modify margin sizes to suit the purpose of the spreadsheets
- 2.7 View multiple spreadsheets concurrently

3. Format spreadsheet
 - 3.1 Use formatting features as required
 - 3.2 Copy selected **formattingfeatures** from another cell in the spreadsheet or from another active spreadsheet
 - 3.3 Use **formattingtools** as required within the spreadsheet
 - 3.4 Align information in a selected cell as required
 - 3.5 Insert headers and footers using **formattingfeatures**
 - 3.6 Save spreadsheet in another **format**
 - 3.7 Save and close spreadsheet to **disk**
4. Incorporate object and chart in spreadsheet
 - 4.1 Import an **object** into an active spreadsheet
 - 4.2 Manipulate imported **object** by using **formattingfeatures**
 - 4.3 Create a chart using selected data in the spreadsheet
 - 4.4 Display selected data in a different chart
 - 4.5 Modify chart using formatting features
5. Print spreadsheet
 - 5.1 Preview spreadsheet in print preview mode
 - 5.2 Select basic printer options
 - 5.3 Print spreadsheet or selected part of spreadsheet
 - 5.4 Submit the spreadsheet to the **appropriate person** for approval or feedback

Skills and Knowledge

Required skills

- Low-level decision making in relation to creating and manipulating spreadsheet data
- Reading and writing at a level where basic workplace documents are understood
- Clear and precise communication
- Interpretation of user manuals

Required knowledge

- Logging in procedures relating to accessing a PC
- Basic mathematics
- Basic technical terminology in relation to reading help files and prompts

Range statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Tools may include:

- help
- search and replace
- spell check
- undo
- simple formatting tools

Edit may include but is not limited to:

- add
- select
- copy
- paste
- delete
- move

Data may include:

- text or symbols added to the document

Layout may include but is not limited to:

- display modes
- orientation
- size

Toolbars may contain:

- buttons
- menus
- a combination of both

Fontsettings may include:

- type
- size
- colour

Alignment may be:

- left
- centred
- right
- justified

Formatting features may include:

- italics
- bold
- underline
- hyphenation

Formatting tools

- Menu commands within the application, such as: help, search and replace, spell check, undo, cut, copy, paste.

Format

- Saving the spreadsheet as another type of document, such as: HTML, XML, comma separated values or text.

Disk may include but are not limited to:

- disks
- CDs
- CD-RW (Compact Discs-Read Write)
- DVD RW
- zip disks
- solid state hard drives

Object

- Any item that can be inserted into the spreadsheet, such as: other documents, pictures and sound.

Appropriate person may include:

- supervisor
- teacher
- authorised business representative
- client

Evidence guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- Assessment must confirm ability to complete basic operations associated with creating, formatting, saving and printing a spreadsheet, including creating basic formulas and working with objects and charts.

To demonstrate competency in this unit the person will require access to:

- Personal computer
- Printer
- Mouse and keyboard
- Monitor
- Basic software
- Documents or information containing data suitable for creating spreadsheets

Context of and specific resources for assessment

An individual demonstrating this competency may use pre-existing data (e.g. documents, spreadsheet data, data from database tables) or create new data when creating and manipulating spreadsheets.

The use of spreadsheets for business and mathematical applications is widespread. In some cases, spreadsheets can operate as sophisticated computerised ledgers and enable the collation, manipulation and presentation of complex data.

The breadth, depth and complexity of knowledge and skills in this competency would prepare a person to perform a defined range of activities many of which may be routine and predictable.

Assessment must ensure

- Applications may include a variety of employment related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. They may also include participation in a team or work group.

Method of assessment

The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs.

Additional guidance on these and related matters is provided in ICA05 Section 1.

- Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency.
- Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors,

**Guidance information
for assessment**

subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICAU1128B Operate a personal computer
- ICAU1129B Operate a word processing application
- ICAU1131B Operate a database application
- ICAU1132B Operate a presentation package

An individual demonstrating this competency would be able to:

- Demonstrate knowledge by recall in a narrow range of areas
- Demonstrate basic practical skills, such as the use of relevant tools
- Perform a sequence of routine tasks given clear direction
- Receive and pass on messages and information
- Maintain knowledge of industry products and services

Let's get started...



ICAU1130B Operate a Spreadsheet Application

Activity: Create a Graph

In this activity you will be producing a graph of your own.



FRUIT SALES - CREATE A PIE CHART

Data:

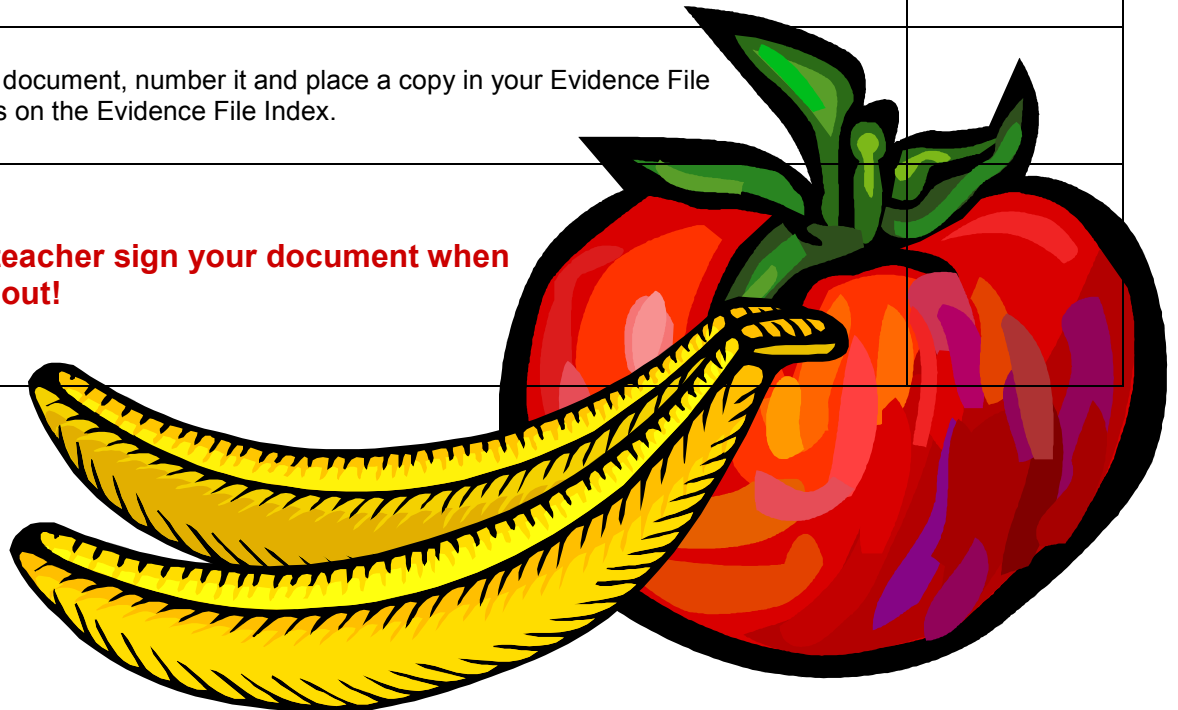
Fruit Item	Jan	Feb	Mar	Apr	TOTAL
Apples	358	456	680	765	
Bananas	435	254	213	365	
Pears	345	482	326	310	
Oranges	389	567	482	567	
Grapes	591	428	367	551	
Kiwifruit	234	368	439	387	

Over please...

DIRECTIONS:

CHECK

Open an Excel document. Name it ' Fruit Sales ' and save it to the file 'ICAU1130B Operate a Spreadsheet Application'.	
Type in all the text and numbers shown on the table above.	
Format all numbers as currency.	
Bold the title, month and fruit headings.	
Total the sales for each fruit.	
Select an area containing the fruit, the monthly sales and their totals.	
Choose the 3D Pie Chart from the Chart Wizard and progress through the steps to produce a graph of the Fruit Sales.	
Note: Through the 'Data Labels' TAB, select series, percent and legend key.	
Choose 'embedding the document in sheet'. Copy and paste the graph to a new document.	
Save your work as ' Fruit Sales Word Document ', insert a footer in size 10 font showing Author, page and date .	
Print this word document, number it and place a copy in your Evidence File entering details on the Evidence File Index.	
Have your teacher sign your document when you print it out!	





ICAU1130B Operate a Spreadsheet Application

Activity: My Budget



Save a copy of this document to your IT file: **ICAU1130B Operate a Spreadsheet Application** and print a copy to have alongside you as you work through the exercise.

Microsoft Excel is a spreadsheet package that allows you to organize data, carry out simple and complex calculations, analyze results, make decisions, chart your results and produce reports.

Spreadsheets are primarily used for calculations. Most mathematical calculations that you can do with pen and paper you can also do in Excel.

Using a computer spreadsheet has many advantages:

- It is quicker and easier to use.
- It is easy to edit.
- Data and formulas can be entered efficiently or copied so you do not have to repeat actions.
- When any data is changed, all calculations are automatically updated.

BUILDING A WORKSHEET

A spreadsheet (worksheet) is a set of data arranged within a grid of columns and rows for the purpose of performing calculations, analyzing information, developing financial information and creating visual representations of data.

'MY BUDGET'

- Open the **Excel** program and open the intranet document '**My Budget Excel Spreadsheet**' and begin working through the instructions below.
- Type **My Budget** in cell **A1**.
- Press **ENTER** to complete the entry. Cell **A2** is now selected.
- Move the mouse over to cell **A4** and click to select it.
- Type **Income** and press **ENTER**.
- Continue entering labels as shown below, using the mouse and arrow keys to move around the worksheet.
- Type your Name in cell **A8**.

	A	B	C	D	E	F	G	H	
1	MY BUDGET								
2		Jan	Feb	Mar	Apr	May	Jun	Total	
3	Income								
4	Expenses								
5	Savings								
6									
7									
8	Your Name								

- Click on cell **B4** and hold it down, drag across to **H4** and down to **H7**. Select the **right alignment** symbol. This will align the numbers you enter, to the right of the column.
- Select cell **B4** and type **1234**
- Continue entering the values as shown below.

	A	B	C	D	E	F	G	H	
1	MY BUDGET								
2		Jan	Feb	Mar	Apr	May	Jun	Total	
3	Income	1234	1122	1360	1006	1524	1198		
4	Expenses	548	589	586	564	637	637		
5	Savings								
6									
7									
8	Your Name								

Entering a formula

- You are now going to enter a **formula** instruction. This will be an instruction as to how you want the numeric data to be calculated.
- Formulas in Excel should always commence with an equals (=) sign. You can also commence a formula by typing a (+) or minus (-) symbol
- To complete a formula, you should press either ENTER or TAB.

Follow these steps:

In cell **B5** type **=B4-B5** and press ENTER to complete the entry.

Select cell **B5** again. Notice that the result of the calculation **686** is displayed in the cell, but the formula **=B6-B5** is displayed in the **formula bar**.

In cell **C5** type **=C4-C5** and press the **TAB** key to move to **D6**.

Over please..

	A	B	C	D	E	F	G	H	
1	MY BUDGET								
2		Jan	Feb	Mar	Apr	May	Jun	Total	
3	Income	1234	1122	1360	1006	1524	1198		
4	Expenses	548	589	586	564	637	637		
5	Savings	=B4-B5							
6									
7									
8	Your Name								

Using AutoFill

Entering data can be time consuming, and Excel has an AutoFill function which has many uses including copying text and formulas. It can be used to automatically copy the formula across the bottom row.

	A	B	C	D	E	F	G	H	
1	MY BUDGET								
2		Jan	Feb	Mar	Apr	May	Jun	Total	
3	Income	1234	1122	1360	1006	1524	1198		
4	Expenses	548	589	586	564	637	637		
5	Savings	686	533	774	442	629	561		
6									
7									
8	Your Name								

- Click back on cell C5 to select it
- Place the mouse pointer exactly over the bottom right corner of the cell so that it changes into a small black cross. This is the *fill handle*.
- Hold down the left mouse button and drag to the right until cells **D6**, **E6**, **F6** and **G6** are selected

Using AutoSum

To calculate the total income for the six-month period, we could enter the formula **=B4+C4+D4+E4+F4+G4** into the **H4** cell.....but there is an easier way.

- Click cell **H4** to select it and click the *AutoSum button* Σ on the standard tool bar (see the range of numbers included, is inside a dotted box). Check that the range of enclosed numbers is correct. Press ENTER.
- Repeat the process for summing to **G4**
- When you try the same method for **G5** you will find that the range of numbers in the dotted box is not the set that you want. Now – with **H6** still selected, hold down the shift key and click once on the cell **B6**. You will see the range B6:H6 highlighted. Click the AutoSum button and the total appears.
- **Alternatively you could have selected the range B6:H6 by dragging across it and then click the AutoSum button.**

	A	B	C	D	E	F	G	H	
1	MY BUDGET								
2		Jan	Feb	Mar	Apr	May	Jun	Total	
3	Income	1234	1122	1360	1006	1524	1198	7444	
4	Expenses	548	589	586	564	637	637	3819	
5	Savings	686	533	774	442	629	561	3625	
6									
7									
8	Your Name								

Saving a workbook

Before you save the workbook you are going to insert a footer to the document:

Click anywhere on the spreadsheet.

Click on [View](#), select [header/footer](#), then [Custom Footer](#). Select the centre position for the footer by clicking on the centre box. From the icons, select [Date](#), [Time](#), [Path and file](#), then [OK](#).

Save the document and name it ' **My Budget Excel Spreadsheet.**'

*** Make sure you save it to the correct file:
ICAU1130B Operate a Spreadsheet Application.

Printing: Preview the document before you print it.

Click on the [Print Preview](#) icon (the magnifying glass).

Check the footer is in place.

You will notice that there are no gridlines showing.

To add the gridlines: Highlight the section you want to print.

Click on **File**, [page set up](#), [select the sheet tab and tick gridlines](#), [OK](#).

Save the document again

Print

Number the document and place it in your Evidence File. Enter the details on the Evidence Index list.

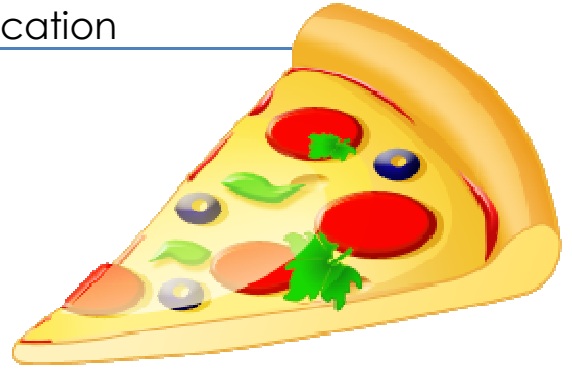


Comet Bay College

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ICAU1130B Operate a Spreadsheet Application

Activity: Creating Graphs



PERFECT PIZZAS

Data entered into an Excel spreadsheet can be displayed graphically in a chart. Charts are linked to the worksheet data they are created from and are updated automatically when the worksheet is changed.

One of the most useful way to present data and trends is a graph (or chart). Figures may look meaningless on the printed page can be converted to easily understood diagrams.

The purpose of using charts or graphs is to:

- bring facts to life with a visual presentation
- to compare relationships
- to compare changes
-

There are advantages and disadvantages in their use:

Advantages

- Quick way for the audience to visualize what you are saying -- numbers, trends, up or down.
- Forceful -- emphasizes main point.
- Convincing -- proves a point, see and hear .
- Compact way to convey information.
- More interesting than just talk or print and you can communicate information without being too technical for the audience understanding.

Disadvantages

- Time consuming to make - decisions must be made in advance for layout, colour, materials, etc.
- Need to avoid being too technical.
- Costly - depending on the medium used.

Chart Wizard

The Excel program makes customized charts easy to create using the Chart Wizard. The Chart Wizard offers many different options that can be used to change the series plotted in the chart, enhance the appearance of the chart and customize it to your preferences.

You are going to create a graph using the prepared data sheet '**Perfect Pizzas Excel Spreadsheet**' from the Careers Department tab within the college website.

Once you have located the document, open Excel and the document and save it to the file: **ICAU1130B Operate a Spreadsheet Application**.

Print off the two pages of this document so that you can have them by you as you work through the exercise.

CREATING A GRAPH

STUDENT NAME _____

As you work through the steps tick them off in the checklist below:

DIRECTIONS:	CHECK
Open the Perfect Pizzas spreadsheet.	
Select cells A3:D7 on the Perfect Pizzas spreadsheet.	
Click on the <i>Chart wizard icon</i> . You can view the different types of charts easily so that you can see which type of graph will suit your data. e.g. Click on <i>Area</i> and <i>hold it for a second</i> , when you let go you will see a series of area graphs. Do the same for <i>Pie</i> and <i>Doughnut</i> .	
In the <i>series in</i> window select <i>rows</i> . Notice that the information is now displayed on the horizontal axis and compares the product sales for each month. Click <i>NEXT</i> .	
Click the <i>Titles TAB</i> , Click in the <i>title</i> area and type in Monthly Product Sales .	
Click the <i>gridline TAB</i> click on the gridline options to see the effect. but leave it at (y) axis major gridlines when you finish.	
Click the <i>Legend TAB</i> and select <i>right</i> This puts the legend to the right of the chart.	
Click the <i>Data Labels TAB</i> . Select <i>value</i> and you can see the value added to the top of each column. In this graph this make it very cluttered. Click the value again to clear it .	
Click the <i>Data Table</i> . Click show data table and note that the sheet data is now attached. This is not necessary for this graph so Click show data to clear it . Click <i>NEXT</i> .	
You will now embed the graph into the excel sheet. Copy the graph from the spreadsheet and paste it into this document.	
Save the document.	
Print a copy of this checklist including the graph. Put a copy in your Evidence file (18) and update the Evidence File Index.	

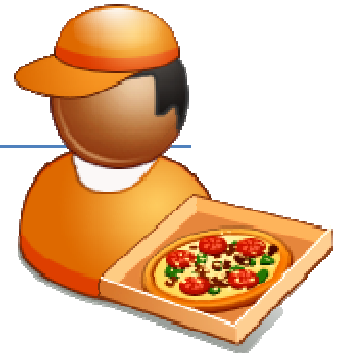


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ICAU1130B Operate a Spreadsheet Application

Pizza to Your House – Editing and Formatting



Editing and Formatting Excel document: Pizza House Travel Claims:

Rather than replacing data, it is sometimes preferable to change the existing data. For example, you may want to alter column titles so they display the full name rather than an abbreviation. You may want to change the document to be easier to read and to emphasize various aspects. You may also want to insert, delete or move rows and columns. Editing and formatting a document enhances the presentation and acceptance of the information, and can make it easier to read.

Moving data

Select the rows or columns to be moved. From the [Edit](#) menu select **cut**. Place the cursor where you want to position the information. From [Edit](#) menu again, select **paste**.

Inserting rows and columns

Extra rows and columns may be inserted into a worksheet at any time. Rows are inserted immediately above the selected position. Columns are inserted to the left of the selected position.

- **Rows** - Click on the cell below the position where you want the new row to appear, click on [insert](#) on the toolbar and select [rows](#).
- **Columns** – position the cursor in the grey area at the top of the sheet and you will see a black arrow, click on the column to the right of where you want the new column, click on [insert](#) on the toolbar and select [column](#).

Deleting rows and columns

- Rows - Select the row by clicking on the [row heading](#) from the [Edit](#) menu select [Delete](#).
- Columns - Select the column by clicking on the [column heading](#) from the [Edit](#) menu select [Delete](#).

Over please...

Changing the orientation of the text

- Select the cells you want to change.
- Click on [Format](#) and select [cells](#).
- Choose the [alignment tab](#) and move the red text pointer to the angle you want.

Changing the width of a column

- Select the columns to be changed.
- Click on [Format](#) and select [column](#) then [width](#) and type in the new width.

Editing text

- Click on the cell you want edit. You will notice the contents appear on the *formula bar*.
- Click on the words in the [formula bar to edit them](#).

Using print preview

- Check the look of your document in print preview to check the presentation and if you are able to fit all columns on the page.

Page orientation

- If your spreadsheet has many columns, you may need to change to [Landscape](#) rather than [portrait](#) page orientation. [File](#), [page set up](#), [page TAB](#) select [Landscape](#), [OK](#).

Gridlines

- To print your sheet with gridlines showing, [highlight](#) the section of the sheet you are going to print, click on [File](#) and select [page setup](#). Select the [Sheets TAB](#) and choose [gridlines and OK](#). Open [print preview](#) to check the gridlines are showing.

Using functions

- Adding = A4+B4 Adding a range of cells =SUM(A4:B7)
- Multiplying = A4*B4 Multiply a range of cells by a number = SUM(A4:D4)*0.59



Checklist: Pizza to Your House

STUDENT NAME _____

Directions: (Tick as you go)	✓																																																
1. Open the document Pizza to Your House Spreadsheet and save it to your file ICAU1130B Operate a spreadsheet application																																																	
2. Change the heading of the document Pizza To Your House to Bold, Capitals																																																	
3. Change Staff vehicle details to Bold																																																	
4. After the cents/km column add in abbreviated column headings for the months from Jun to Dec																																																	
5. The new columns do not fit in the page. Change the column width of all the columns to 6 cm																																																	
5. Bold the column headings																																																	
7. After the Dec column, you will need to add two more columns. Type in the headings Total and Cost .																																																	
8. This puts these two columns outside the page. Alter the column width again to 5.5 .																																																	
9. This change has cramped the spreadsheet so that it is unreadable. Change the orientation to landscape and then change the column width on the sheet to 7 .																																																	
10. Part of the headings on some of the columns is hidden. Select the heading row and change the orientation of the words to 90 degrees .																																																	
11. Edit the Family names. Bold the Family names and change them to capitals .																																																	
12. One of the car models is spelled incorrectly. It should be Mgnaro . Edit the text.																																																	
13. Enter the following information on the spreadsheet:																																																	
<table border="1"> <thead> <tr> <th></th> <th>Jun</th> <th>Jul</th> <th>Aug</th> <th>Sep</th> <th>Oct</th> <th>Nov</th> <th>Dec</th> </tr> </thead> <tbody> <tr> <td>ABLE</td> <td>80</td> <td>75</td> <td>60</td> <td>58</td> <td>64</td> <td>50</td> <td>48</td> </tr> <tr> <td>DODDS</td> <td>160</td> <td>147</td> <td>120</td> <td>136</td> <td>118</td> <td>125</td> <td>135</td> </tr> <tr> <td>SMITH</td> <td>180</td> <td>154</td> <td>118</td> <td>128</td> <td>90</td> <td>136</td> <td>140</td> </tr> <tr> <td>JONES</td> <td>50</td> <td>74</td> <td>66</td> <td>48</td> <td>52</td> <td>44</td> <td>60</td> </tr> <tr> <td>PETCO</td> <td>170</td> <td>152</td> <td>130</td> <td>124</td> <td>120</td> <td>115</td> <td>134</td> </tr> </tbody> </table>		Jun	Jul	Aug	Sep	Oct	Nov	Dec	ABLE	80	75	60	58	64	50	48	DODDS	160	147	120	136	118	125	135	SMITH	180	154	118	128	90	136	140	JONES	50	74	66	48	52	44	60	PETCO	170	152	130	124	120	115	134	
	Jun	Jul	Aug	Sep	Oct	Nov	Dec																																										
ABLE	80	75	60	58	64	50	48																																										
DODDS	160	147	120	136	118	125	135																																										
SMITH	180	154	118	128	90	136	140																																										
JONES	50	74	66	48	52	44	60																																										
PETCO	170	152	130	124	120	115	134																																										
14. Total the km for each driver.																																																	
15. Click on the cost cell for Alf ABLE and type in =F5*N5 ENTER . This will multiply the km by the cost allowance per km.																																																	
16. Click on the same cell again. Move the cursor to the bottom right position until it appears as a cross and drag down the cost list . This will fill down the formula for the other driver's costs.																																																	
17. Highlight the cost numbers. Click on Format , select cells and from the number TAB select currency . Select 2 decimal places , and from the symbol drop down list select English (Australia) , click OK .																																																	
18. Click on a cell under the table and type in your name using Comic Sans font at size 20 .																																																	

Save the Excel document and this document.

Print off a copy of this **checklist (16)** and the **Pizza Travel Spreadsheet** for your Evidence File, number them and enter the details on the Evidence Index list.