

Easy Steps



Unit 27643 (v1)

**Apply spreadsheet features to present data
to meet a brief**

with

Microsoft Excel 2013

- ☒ Easy to follow
- ☒ Step-by-step instructions
- ☒ Covers Unit Standard Criteria

A Cheryl Price Publication

Unit Standard 27643 (Version 1)

Apply spreadsheet features to present data to meet a brief - Excel 2013

This book covers the course outline for the following New Zealand Qualifications Authority Unit Standard:

Unit Standard 27643 - BUSINESS ADMINISTRATION (Level 4, Credit 6)

Apply spreadsheet features to present data to meet a brief

All topics in this Unit Standard are included in this book.

Retrievable exercise files are used with this book and listed on page xi. These are available as a free download from our web site at www.cherylprice.co.nz. Instructions for downloading the exercises are included on page xii.

This book has been written using Microsoft Excel 2013 with Windows 8.1.

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Cheryl Price
T.Dip.WP, T.Dip.T

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PO Box 187
Matakana
Auckland 0948

Phone: (09) 422 7230
Mobile: 021 715566
Fax: (09) 422 7236

Web address:

www.cherylprice.co.nz

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Introduction

Welcome to Unit Standard 27643 v1 Apply spreadsheet features to present data to meet a brief with Microsoft Excel 2013.

This book has been written using Microsoft Excel 2013 with Windows 8.1. (The Windows 7 operating system can be used. However screen shots will differ slightly from those shown in this book.)

Retrievable Exercise Files

Some exercise files have been created for you to prevent time in keying in many exercises. You can then open these files and use the features of Excel to manipulate and format text.

A list of these files is shown on page xi and instructions for downloading these files from our web site are included on page xii.

What you will learn

In this course you will learn how to -

- mixed relative and absolute cell references, VLOOKUP, HLOOKUP, COUNT, COUNTIF, ROUND functions, nested formulae
- links between worksheets, links between workbooks
- charts
- data validation and conditional formatting
- tables, subtotals, named cells and ranges

How you will learn

This book is divided into sections. Each section page lists the learning outcomes for that section. You will work through each section and do all exercises (or those instructed by your tutor).

Revision theory is included at the end of the section followed by a Practice Assessment. Our books include accumulation and consolidation of learning which carries across each section.

After you have completed the book your tutor will give you the actual Unit Standard Assessment.

Word meaning boxes

Sometimes you will see a box at the left side of the page of a line that has dotted underlining. This box will contain information to help you understand the meaning of the underlined word (or how that word is formed). An example is shown below.

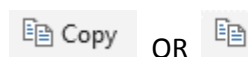
forecast
= to
calculate a
future
result

Data can therefore be altered to re-calculate budgets and to forecast results using different sales figures. Worksheets can be saved, opened and printed as required.

Different Excel buttons

Depending on the size of your Excel screen, buttons on the ribbon may vary to those shown in this book. The icon with the word of that feature may show, or the icon only.

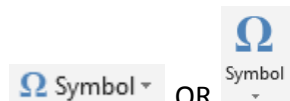
For example, the Copy button in the Clipboard group on the **HOME** tab may be displayed in either of the following ways.



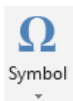
OR



The Symbol button can show as either -



OR



Shortcut keys

Shortcut keys are indicated in the left margin, usually the first time they are used. An example follows.

Ctrl S

- 1 Click on the Save button  on the Quick Access Toolbar .
- 2 Type a file name for your document then click on Save.

Glossary

Generally when a word(s) is first used that is a technical term or a word that you may not know that relates to an exercise, or a particular Excel 2013 feature, a description is given. You will also see that such words are in **bold**.

These terms are listed on each section page, an example is shown below. Explanations are also included in the Glossary at the end of the book.



In this section you will come across the following words highlighted in bold. This indicates that the word is included in the Glossary at the end of the book together with a description of that word.

Arguments
Backstage View
Cell reference
Cells
Charts

Data
Default
Dynamic
Exponential format
Fill handle

Formula
Functions
Gridlines

Icons used in this book

This book contains icons to help guide you in your learning.

The following list shows the icon and its meaning.



Learning Outcomes

Learning Outcomes are displayed on the section page and describe what you will learn in that section.



EXERCISE 1

These are the exercises that you are required to do. Often there will be an introduction sentence to tell you what you will be doing in that exercise.



These are notes for your information.



Revision

This appears at the end of each section and contains theory revision questions relating to features learnt in that section.



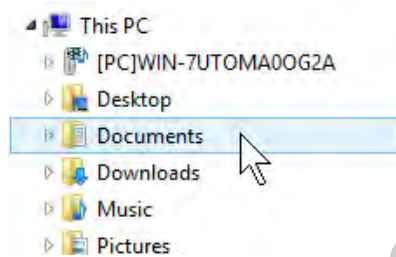
Practice Assessment

Each practice assessment covers consolidation of topics learnt in that section and provides practice for students prior to sitting the actual Unit Standard Assessment.

Save Options

When a document is saved you will be requested to select the location, ie Computer then click on the Browse button and select the folder required. You can eliminate this procedure by selecting the location and saving directly to the Save dialog box and therefore bypass Backstage view.

For the purposes of this book we have used the Documents folder within This PC as the default folder. This folder is shown below which is the shortcut for the actual path name of C:\Users\User Name\Documents. This means that files you open and save will be on your hard drive.



Use the following instructions to specify the Documents folder as the default file location:

- 1 Click on the **FILE** tab then click on **Options**.
- 2 Click on **Save** at the left.
- 3 Ensure that the Documents folder is displayed as the Default local file location as shown below.

- ☒ Don't show the Backstage when opening or saving files
- ☐ Show additional places for saving, even if sign-in may be required.
- ☐ Save to Computer by default

Default local file location:

- 4 Also ensure that *Don't show the Backstage when opening or saving files* option displays a tick.
- 5 Remove the tick from the next option *Show additional places for saving, even if sign-in may be required.*
- 6 Click on OK.



If you wish to open and save files to OneDrive (ie the cloud) use instructions on the next page. If you have Windows 8, or have updated to Windows 8.1 from Windows 8, SkyDrive may be displayed instead of OneDrive but is essentially the same.

OneDrive

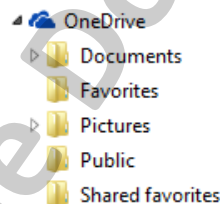
OneDrive is a cloud storage application from Microsoft. It is one of the major online file storage options competing with Dropbox and Google Drive.



Because files are stored “in the cloud” (in addition to your hard drive) it means that you can access those files from anywhere in the world because you will always have access to the OneDrive application and your files. You do however need an Internet connection for the files to be updated from your hard drive to OneDrive.



Saving to OneDrive

OneDrive is automatically set up when Microsoft Office 2013 (ie Office 365) is installed on your computer. A OneDrive folder will be displayed on the Navigation Pane in Windows Explorer as below.



Files can be saved manually by clicking on the Save button  on the Quick Access Toolbar, specifying a name for your file then clicking on the  OneDrive icon (you may wish to double click on Documents and save to that folder).

OneDrive as the Default File Location

Use the following instructions if you wish to specify OneDrive as your default file location.

- 1 Click on the **FILE** tab then click on **Options**.
- 2 Click on **Save** at the left.
- 3 Ensure that the C:\Users\User Name\OneDrive\Documents folder is displayed as the Default local file location as shown on the next page. (You may need to retype the location)
- 4 Also ensure that *Don't show the Backstage when opening or saving files* option displays a tick.

5 Remove the tick from the next option *Show additional places for saving, even if sign-in may be required.*

- ☒ Don't show the Backstage when opening or saving files
- ☐ Show additional places for saving, even if sign-in may be required.
- ☐ Save to Computer by default

Default local file location:

C:\Users\Cheryl\OneDrive\Documents

Browse...

6 Click on OK.

OneDrive Website

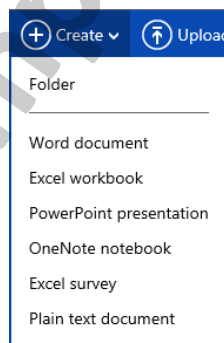
You can log in to the OneDrive website using your web browser with your login name and password.

The website is www.OneDrive.live.com.



You can upload photos and use files and share files.

New files can be created through OneDrive by clicking on **Create** and selecting the program you wish to use, eg Excel (web applications in OneDrive are slightly cut-down versions of Office 2013 programs).



Sharing Files

From within Excel 2013 you can save files to OneDrive (usually to the Documents folder) and then share those files. You can then click on the **FILE** tab, on **Share** and invite people to share files in OneDrive.

Alternatively, you can right click on a file in the OneDrive website (see above) and select Sharing.

Use Google in your web browser to search for additional information on OneDrive.

Exercise Files used in this book

(Instructions are included on the following page for downloading retrievable files from our web site at www.cherylprice.co.nz)




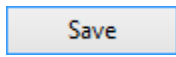

Names of files	
Active Sports	Functions
Albany Joinery for Charts	Garden Soils Ltd
Auckland, Jan-Mar	Goodall Superannuation
Balance Sheet	Hats Income Statement
Baxter Sports	Jessie's Clothing Stores
Best Deals for Charts	Learning Cheques
Bonus	Lifestyle Books
Box Up Supermarkets	Mid Semester Exam
Brighton Winery	Mountain Scene Sale
Busy Bee Company	Perfect Print
Charts – Cleantec	Personal Budget 27643
Cleantec	Rainbow Books
Computer Courses	Recreational Magazines
Cool Shot Photography	Series
Costello's Fast Foods	Spartacus – Adelaide
Costello's Product Sales	Spartacus – Auckland
Currency Rates	Spartacus – Brisbane
Cycle Stuff Sales - January	Spartacus - Income Statements
Data Tables	Spartacus – Melbourne
Day Tripper	Spartacus – Sydney
Eats and Treats	Staff Listing
Exclusive Services - Quarterly Report	Te Kea Trading
Fiji Landing Apartments	VitaHealth Products
Fire Shop - Brisbane	Wellington, Jan-Mar
Fire Shop - Melbourne	Williams - Brisbane
Fire Shop - Perth	Williams - Cairns
Fire Shop - Sydney	Williams – Canberra
Flower Shop	Williams – Sydney

Downloading Exercise Files

The exercise files listed on the previous page can be downloaded from the Cheryl Price web site using the instructions below.



For the purposes of this book we have specified Exercise files to be downloaded to the Documents folder within This PC which is the shortcut for the actual pathname of C:\Users\User Name\Documents. This is where files will be opened from and saved to.

1	In the address bar of Internet Explorer, type: www.cherylprice.co.nz
2	Press Enter on the keyboard to display the Cheryl Price website.
3	Click in the Product Search box and type the number of this unit standard, as shown at the right. <div data-bbox="1021 672 1324 851"> </div>
4	Click on 
5	Click on US 27643
6	Under the Exercise Files heading click on the underlined blue hyperlink, ie Book Exercise Files – V1 Excel 2013 Free Download The File Download dialog box will display.
7	<p>a Click on  Save as then</p> <p>b Change file name to <i>US27643 v1 Excel 2013 Book Exercise Files</i>.</p> <p>c Click on the Documents folder shown below.</p> <div data-bbox="606 1400 989 1624"> </div> <p> The Documents folder under This PC is the shortcut for C:\Users\User Name\Documents</p> <p>d Click on .</p>
8	<p>a Click on .</p> <p>b Right click on the zipped exercise file and select Extract All. Click on Extract. A folder will be created containing the exercise files.</p> <p>c Delete the Compressed (zipped) Folder.</p>

NZQA Outcomes and Evidence Requirements

Unit Standard 27643 (Version 1)

Title	Apply spreadsheet features to present data to meet a brief		
Level	4	Credits	6

Purpose	People credited with this unit standard are able to apply spreadsheet features to present data to meet a brief.
----------------	---

Classification	Business Administration > Business Information Management
-----------------------	---

Available grade	Achieved
------------------------	----------

Explanatory notes

- 1 Definition
Software help function includes all online or offline proprietary support and tutorials.
- 2 Assessment against this unit standard must involve the candidate creating at least two workbooks and creating and formatting a minimum of three spreadsheets for each workbook. The data to be presented should be contained in a brief provided to the candidate.
- 3 Any commonly used proprietary or open-source spreadsheet software may be used for assessment provided it includes the features, or their equivalents, specified in the range statements of outcome statement 1.

Outcomes and evidence requirements

Outcome 1

Apply spreadsheet features to present data to meet a brief.

Range features must include but are not limited to – conditional formatting, VLOOKUP, HLOOKUP, count, countif, round functions, links between sheets, links between workbooks, filters, hide data (rows and columns), nested formulae, tables, subtotals, named cells and ranges, mixed relative and absolute cell references, data validation, charts;
evidence is required of three different types of charts.

Evidence requirements

- 1.1 Features are applied to spreadsheet workbooks in accordance with computer textbooks and/or the software help function.
- 1.2 Data are presented which meet the requirements of the brief.

Planned review date	31 December 2016
----------------------------	------------------

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 November 2011	N/A

Consent and Moderation Requirements (CMR) reference	0113
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Section

1

Naming Cells and Ranges Absolute Cell References Hide Columns and Rows Multiple Worksheets Charts



Learning Outcomes

At the end of this section you should be able to -

- ☐ Apply names to cell references and ranges
- ☐ Use absolute cell references
- ☐ Insert and edit headers and footers
- ☐ Apply Cell Styles to a worksheet
- ☐ Freeze panes
- ☐ Hide columns and rows
- ☐ Manage multiple worksheets (copy, move, delete, insert and link worksheets)
- ☐ Create formulas across worksheets
- ☐ Charts



In this section you will come across the following words highlighted in bold. This indicates that the word is included in the Glossary at the end of the book together with a description of that word.

Absolute Cell References
Area Chart
AutoFormat
Bar Chart
Cell Name
Cell Reference

Charts
Column Chart
Go To Facility
Landscape Orientation
Line Chart
Pie Chart

Portrait Orientation
Quick Chart
Recommended Charts feature
Relative Cell References
Series Command
Shortcut Menu

Names

A cell or a range of cells can be given a **cell name** which can be used instead of **cell references**. Some advantages of using names are:

- They are easier to understand than cell references.
- They reduce the risk of using an incorrect cell reference in a formula.
- They enable you to move quickly to an area within the worksheet.
- They can be used to reference across worksheets.

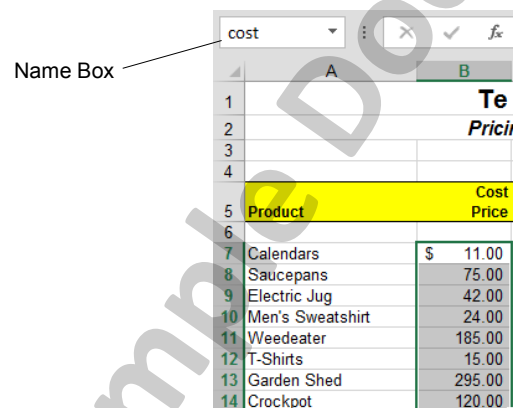
Defining a Name

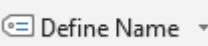


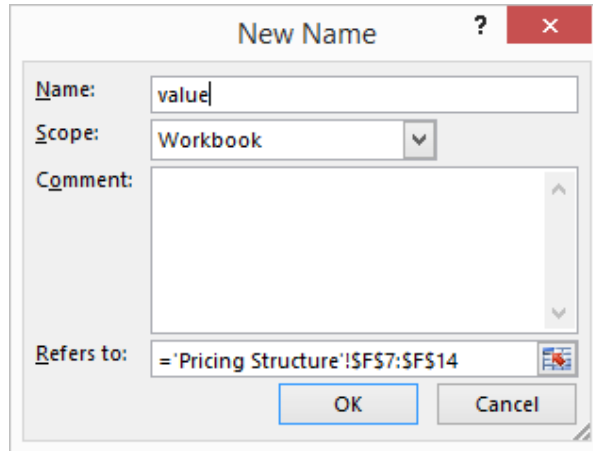
EXERCISE 1

In this exercise, names will be assigned to the columns containing figures. These names will then be used when creating Sum and Average functions.

- 1 Open the workbook called **Te Kea Trading**
- 2 Select the cell range B7 to B14.
- 3 Click in the Name box at the left of the Formula bar (which presently displays B7).
- 4 Type: *cost* as shown below.



- 5 Press Enter.
- 6 Define names for the following ranges:
retail C7:C14
margin D7:D14
quantity E7:E14
- 7 An alternative method of creating cell names is to use the Define Name dialog box.
 - a Select the range F7:F14.
 - b Click on the FORMULAS tab.
 - c Click on  Define Name . The New Name dialog box appears.
 - d In the Name: text box type: *value*



The 'New Name' dialog box is shown. It has a title bar with a question mark and a close button. The 'Name' field contains 'value'. The 'Scope' dropdown is set to 'Workbook'. The 'Comment' field is empty. The 'Refers to' field contains the formula '=Pricing Structure!\$F\$7:\$F\$14'. There are 'OK' and 'Cancel' buttons at the bottom.

e Click on OK.

derived
= based on
an another
source


Create Names

Columns or rows of cells can be given names derived from the column or row headers.

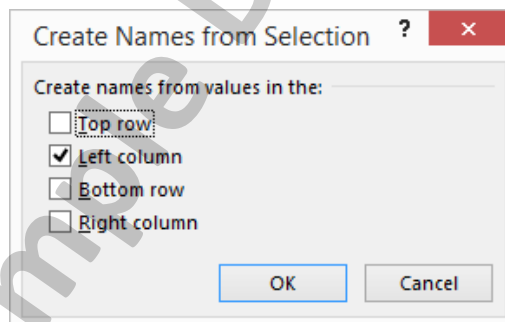
In the next exercise Product names will be assigned to each of the costing/calculation cells.




EXERCISE 2

- 1 Select the cell range A7:G14.
- 2 On the FORMULAS tab, click on  Create from Selection .

The Create Names from Selection dialog box is displayed.

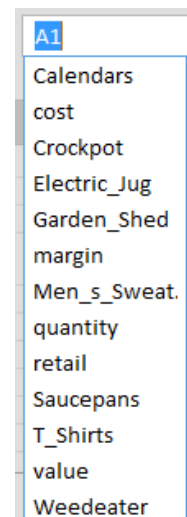


The 'Create Names from Selection' dialog box is shown. It has a title bar with a question mark and a close button. The text 'Create names from values in the:' is followed by four checkboxes: 'Top row' (unchecked), 'Left column' (checked), 'Bottom row' (unchecked), and 'Right column' (unchecked). There are 'OK' and 'Cancel' buttons at the bottom.

- 3 Ensure Left column is selected.
- 4 Click on OK.
- 5 Click on the Name box  and the names will display as shown at the right.

Notice that the characters that cannot be used in names (space and apostrophe) have been replaced with the underscore character.

- 6 Click on a name to select the cells that have been assigned that name.



The Name box dropdown list is shown. It contains the following names: A1, Calendars, cost, Crockpot, Electric_Jug, Garden_Shed, margin, Men_s_Sweat, quantity, retail, Saucepans, T_Shirts, value, and Weedeater.

Using a Name with a Formula



EXERCISE 3

- 1 In cell B16, type: `=sum(cost)` and press Ctrl Enter.
- 2 Format cell B16 to Currency as shown in cell B7.

The total of the Cost Price column displays the result \$767.00 and the Formula bar shows the entry as `=SUM(cost)`.

- 3 Click on cell C16.
- 4 Type: `=sum(retail)` and press Ctrl Enter.
- 5 Format cell C16 to Currency.

\$1,062.55 is displayed.



EXERCISE 4

Calculate the Total %Margin as follows.


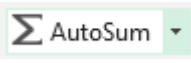
- 1 Click on cell D16 and type: `=(C16-B16)/C16`
- 2 Press Ctrl Enter.
- 3 Ensure cell D16 is formatted to Percentage with two decimal places.
27.82% is displayed.
- 4 Click on cell E16 and type: `=sum(quantity)` and press Tab.
302 is displayed.
- 5 In cell F16 type: `=sum(value)` and press Ctrl Enter.
- 6 Format F16 to Currency.
\$17,499.00 is displayed.

Using a Name in the Formula Palette

In the following exercise you will create a function to calculate the average of the %Margin column.



EXERCISE 5

- 1 Click on cell A18 and type: *Average Margin*
- 2 Press Ctrl Enter then apply bold.
- 3 Select cell B18 and click on the  on the  button.
- 4 Select Average.
- 5 Type: *margin* to replace the highlighted cell range.

	A	B	C	D	E	F	G
1	Te Kea Trading Company						
2	Pricing Structure for Annual Sale						
3							
4							
5	Product	Cost Price	Retail Price	% Margin	Quantity in Stock	Value of Stock	Sale Price
6							
7	Calendars	\$ 11.00	\$ 18.95	41.95%	50	\$ 550.00	
8	Saucepans	75.00	95.00	21.05%	25	1,875.00	
9	Electric Jug	42.00	75.50	44.37%	32	1,344.00	
10	Men's Sweatshirt	24.00	42.95	44.12%	55	1,320.00	
11	Weedeater	185.00	269.90	31.46%	24	4,440.00	
12	T-Shirts	15.00	24.85	39.64%	75	1,125.00	
13	Garden Shed	295.00	375.50	21.44%	11	3,245.00	
14	Crockpot	120.00	159.90	24.95%	30	3,600.00	
15							
16		\$ 767.00	\$ 1,062.55	27.82%	302	\$ 17,499.00	
17							
18	Average Margin	=AVERAGE(margin)					
19		AVERAGE(number1, [number2], ...)					
20		margin					
21							

- 6 Press Ctrl Enter.
- 7 Format to Percentage with two decimal places. The average margin result displays as 33.62%.
- 8 Press Ctrl Home (to return to cell A1).

Using a Name with Go To

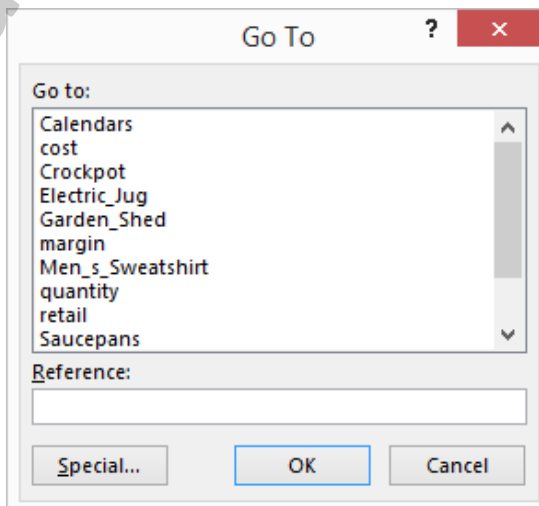
Names can be used to move quickly to a designated area of your worksheet by using the **Go To** facility.



EXERCISE 6

- Ctrl G 1 On the HOME tab click on  then select  **Go To...**

The Go To dialog box displays a list of all names in the worksheet, and all past cell references that have been used.

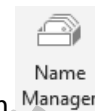


(Alternatively a named range can be selected from the Name Box list. Past cell references do not appear here.)

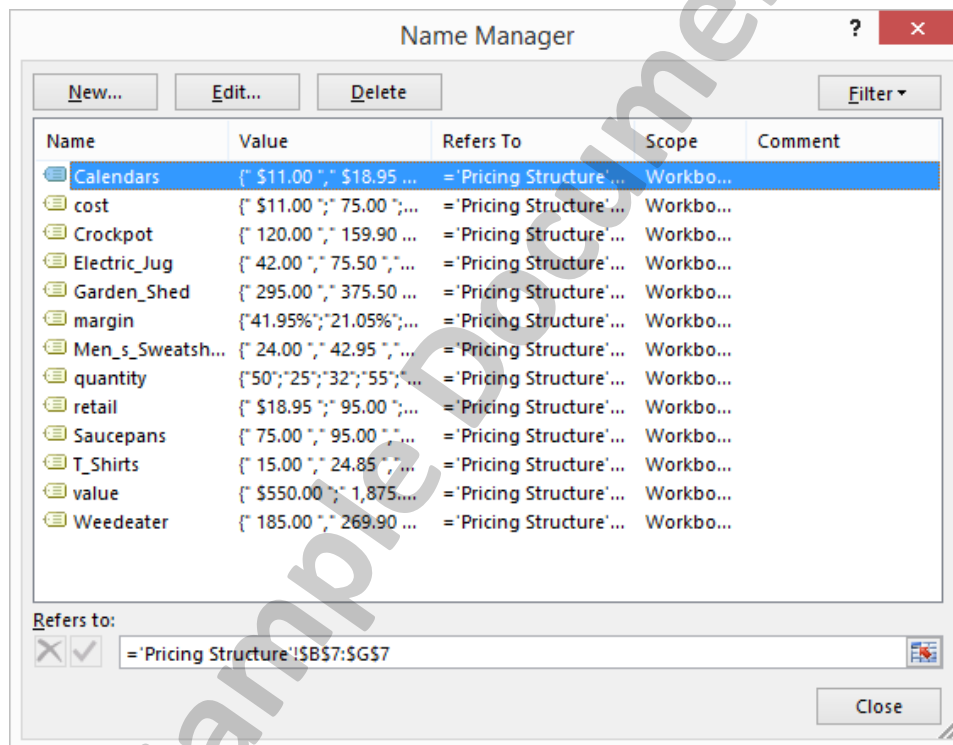
- 2 Double click on *retail*. Cells C7 to C14 will be selected.
- 3 Press Ctrl G. Select Crockpot and click on OK.
- 4 Press Ctrl G. Type: *F16* in the Reference: text box then click on OK.
- 5 Save the workbook as **Named Ranges** and close it.

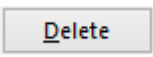
Deleting Names

- 1 With the relevant workbook open, on the FORMULAS tab, click on

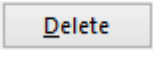


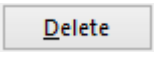
An example of the Name Manager dialog box for the **Te Kea Trading** workbook is shown below.



- 2 Select the name to be deleted and click on .
- 3 Click on OK.




To delete multiple consecutive names, select the first name, hold down the Shift key, select the last name, and click on .

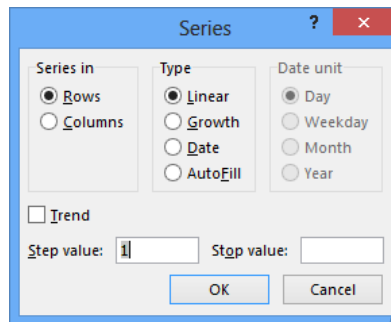
For multiple non-consecutive names, select the first name then hold down the Ctrl key as you select other names then click on .

Series

The **Series command** is used to fill a range of cells with a sequence of values. This is useful to quickly insert numbers (eg from 1 to 10), or consecutive dates.

A series range starts with a number or date value and increases by a set step value until a stop cell or stop value is reached. A series can be entered by using the fill handle OR by clicking on

 **Fill** in the Editing group on the HOME tab, and choosing Series.



Series in Select Rows to fill the series across rows, or select Columns to fill down columns.

Type Select the type of series required.

Date unit If Date is selected in the Type section, the date increments by Day, Weekday, Month or Year, depending on what is selected in the Date unit section.

Step value: The amount by which a series is increased or decreased. A positive number will increase a series and a negative number will decrease a series.

Stop value: The value that completes a series.


Fill Series Options

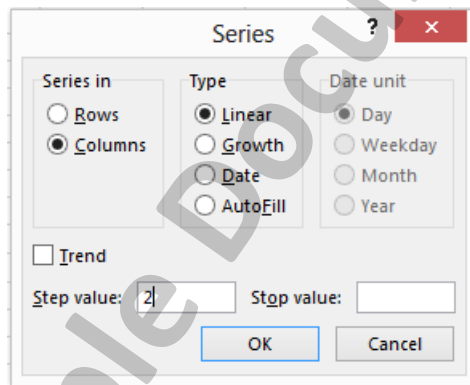
Description	Instruction
To insert incremented number values	<ol style="list-style-type: none">1 Select the number value cells.2 Hold down the Ctrl key and drag on the fill handle.
To define step units, ie the increment amount	<ol style="list-style-type: none">1 Select the value cells and the range to be filled.2 Choose Fill, Series.3 Select the type of fill required.4 Click in the Step value: box and enter a value.5 Click on OK.
To define stop units, ie the final amount	<ol style="list-style-type: none">1 Select the first cell.2 Choose Fill, Series.3 Select the type of fill required.4 Click in the Stop value: box and enter a value.5 Click on OK.
To insert incremented dates	<ol style="list-style-type: none">1 Select the cell containing the first date.2 Click and drag on the fill handle.


Description	Instruction
To fill cell(s) with the contents of the cell(s) to the left	<ol style="list-style-type: none"> 1 Select the cell(s) with data. 2 Hold down the Ctrl key and select empty cells to the right. 3 Press Ctrl R (Copy to the right).
To fill cell(s) with the contents of the cell(s) above	<ol style="list-style-type: none"> 1 Select the cell(s) with data. 2 Hold down the Ctrl key and select the empty cells below. 3 Press Ctrl D (Copy down).

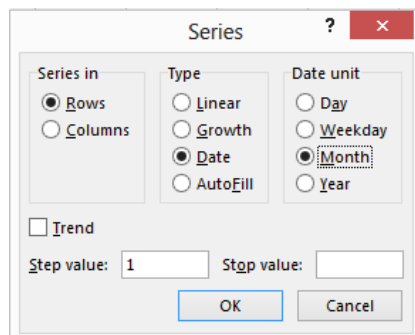


EXERCISE 7

- 1 Open the workbook called **Series**
- 2 In cell A7 type: *1000* and press Ctrl Enter.
You will insert a series of numbers that starts at 1000 and increases by two into cells A7 to A14.
- 3 Select cells A7 to A14.
- 4 From the HOME tab, click on , select Series and type: 2 in the Step value: box.



- 5 Click on OK.
- 6 In cell B5, type: *31 May* and press Ctrl Enter.
- 7 Select cells B5 to F5. Click on  then select Series.
Date is automatically selected in the Type section.
- 8 Select the Month option from the Date unit section.



- 9 Click on OK.

- 10 Type the data shown below.
- 11 Select the cell(s) in each row, then drag the fill handle across to column G.

Fills cells with the characters CF and increments the numbers, eg CF101, CF102

Fills cells with the names of each month

Fills cells with the value 2000

Fills cells with the word Week and increments the number, eg Week 1, Week 2

Fills cells in increments of the difference between the two selected cells

Fills cells with the text from the selected cells

19	CF101		
20	Jan		
21		2000	
22	Week 1		
23		1995	2000
24		3	6
25	Julia		Cheryl

Using the Shortcut Menu

The **shortcut menu** can also be used to fill cells.

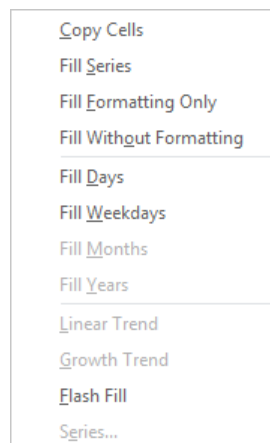


EXERCISE 8

In this exercise you will fill cells using an option from the shortcut menu.

- 1 In cell A26 type: *Monday* as the first entry.
- 2 Press Ctrl Enter.
- 3 Using the **right** mouse button drag the fill handle across to cell G26.

When the mouse button is released the shortcut menu shown below will be displayed.



- 4 Select Fill Weekdays.
- 5 Save and close the workbook.

Flash Fill


adjacent
= next to

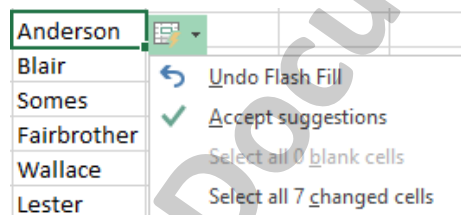
The **Flash Fill** feature, which is new in Excel 2013, allows you to automatically fill data into a column using information already in an adjacent column. Flash Fill is best used where the original information has a consistent format or pattern. It can also be used to combine data from multiple columns into a single column and to format numbers



EXERCISE 9

In this exercise you will use Flash Fill to separate a column of names into individual Last Name and First Name columns to see the effect of this new Excel feature.

- 1 Open the workbook called **Flash Fill**
- 2 In cell B2 type: *Johnson* and press Enter.
- 3 In cell B3 start typing *Fredricks*. The name will be completed in the cell and the other names will be displayed in cells B4:B9.
- 4 Press Enter.
- 5 Click on the Flash Fill Options button  at the right of cell B4 to display the Options menu. Because you accepted the suggested entries by pressing Enter, Accept suggestions is ticked.

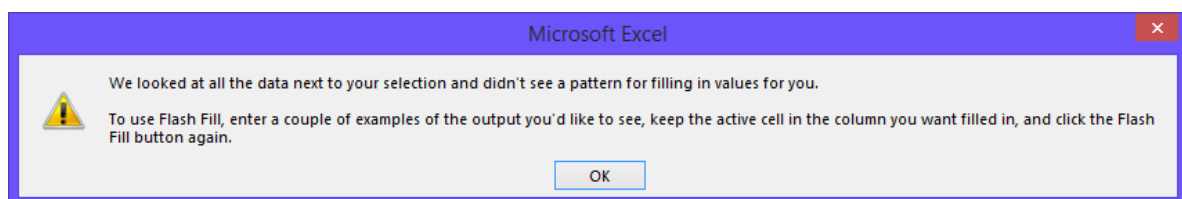


- 6 Follow the same steps to enter the matching first names into cells C2:C9.

	A	B	C	D
1	Name	Last Name	First Name	
2	Larry Johnson	Johnson	Larry	
3	Emma Fredricks	Fredricks	Emma	
4	John Anderson	Anderson	John	
5	David Blair	Blair	David	
6	Michael Somes	Somes	Michael	
7	Nigel Fairbrother	Fairbrother	Nigel	
8	Marion Wallace	Wallace	Marion	
9	Joanna Lester	Lester	Joanna	



As you can see it is not necessary for the original data column (Name) and the First Name column to be next to each other for Flash Fill to work. However, if there was a blank column between Last Name and First Name, Flash Fill would not work automatically, and if you applied it manually the following error message would be displayed.



- 7 Save and close the workbook.

Absolute Cell References

A cell reference that changes when a formula that refers to it is copied, is called a **“relative” cell reference**.

An **“absolute” cell reference** is a reference to a specific cell or group of cells in a worksheet. It does not change when a formula that includes it is copied to another area within the worksheet, ie the cell reference is “fixed”.

prefix
= in
front of

An absolute reference is created by typing a \$ as a prefix to the column and/or row reference that is to remain fixed. To change a relative cell reference to absolute, click on the cell reference (either in the Formula Bar or in the cell while editing), then press F4. The \$ signs will be inserted automatically.

Mixed references are a combination of absolute and relative cell references, eg \$C12 (absolute column reference = C, relative row reference = 12).

F4 toggles through the combinations of absolute, relative and mixed references.

Relative	B6	
Absolute	\$B\$6	(Press F4)
Absolute column and Relative row (mixed)	\$B6	(Press F4 again)
Relative column and Absolute row (mixed)	B\$6	(Press F4 again)



EXERCISE 10

An absolute cell reference is used in this exercise to calculate the Amount by multiplying No. of Students by the Course Cost. If the Course Cost changes, only the figure in cell B6 will need to be updated as every copy of the formula refers to it absolutely.

- 1 Open the workbook called **Computer Courses**

	A	B	C	D
1	Department of Business Studies			
2	Computer Courses			
3	<i>Semester 1, 2014</i>			
4				
5				
6	Course Cost:	\$350		
7				
8				
9	Program	No. of Students	Amount	% Total
10				
11	Word 2013	510		
12	Excel 2013	390		
13	Publisher 2013	220		
14	Access 2013	250		
15	PowerPoint 2013	412		
16				
17				

- 2 In cell C11 type: =
- 3 Click on cell B11 then type: *
- 4 Click on cell B6. The formula in cell C11 will read =B11*B6.
- 5 Press Ctrl Enter.

- | | A | B | C | D |
|----|---------------------------------------|------------------------|---------------|----------------|
| 1 | Department of Business Studies | | | |
| 2 | Computer Courses | | | |
| 3 | <i>Semester 1, 2014</i> | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | Course Cost: | \$350 | | |
| 7 | | | | |
| 8 | | | | |
| 9 | Program | No. of Students | Amount | % Total |
| 10 | | | | |
| 11 | Word 2013 | 510 | \$178,500 | |
| 12 | Excel 2013 | 390 | \$0 | |
| 13 | Publisher 2013 | 220 | \$0 | |
| 14 | Access 2013 | 250 | #VALUE! | |
| 15 | PowerPoint 2013 | 412 | \$0 | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |

8 Click on cell C14 and look at the formula. It refers to cell B9 rather than B6.



- You will now make the reference to B6 absolute in the formula in cell C11. This means that the reference to B6 will not change when the formula is copied down the column.

- SUM =B11*\$B\$6

- | | A | B | C | D |
|----|---------------------------------------|------------------------|---------------|----------------|
| 1 | Department of Business Studies | | | |
| 2 | Computer Courses | | | |
| 3 | Semester 1, 2014 | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | Course Cost: | \$350 | | |
| 7 | | | | |
| 8 | | | | |
| 9 | Program | No. of Students | Amount | % Total |
| 10 | | | | |
| 11 | Word 2013 | 510 | \$178,500 | |
| 12 | Excel 2013 | 390 | \$136,500 | |
| 13 | Publisher 2013 | 220 | \$77,000 | |
| 14 | Access 2013 | 250 | \$87,500 | |
| 15 | PowerPoint 2013 | 412 | \$144,200 | |
| 16 | | | | |
| 17 | | | \$623,700 | |