

Level 3

# SPREADSHEETS Student Workbook

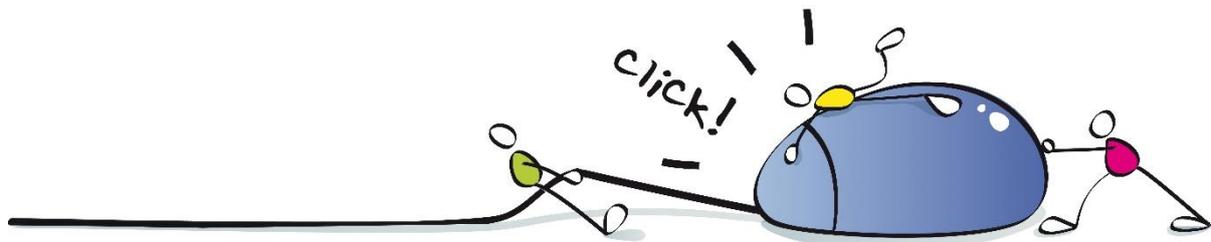


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## CONTENT

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Student details	Page 3
Note to Students	Page 3
Note to the Tutor & Students	Page 4
Course Overview	Page 5
<b>Assessment Brief 1</b>	Page 6
Health, Safety and Hygiene	Page 7
Spreadsheet Uses and Features	Page 18
Spreadsheet Terminology	Page 25
<b>Assessment Brief 2</b>	Page 33
Using the Spreadsheet	Page 34
<b>Assessment Brief 3</b>	Page 40
Creating a Worksheet & Workbook	Page 41
Checklist	Page 48
Mapping of Learning Outcomes	Page 49



## STUDENT DETAILS:

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Name:

PPS Number:

Centre/School:

Tutor:

Date:

### NOTE TO STUDENTS

Hi Students,

Welcome to QQI Level 3 Spreadsheets!

Your tutor / teacher will assign tasks for you to present the evidence that is necessary to gain accreditation.

Things to keep in mind:

- Your assessment briefs and overview must have your signature.
- Include dates on the assessment briefs and overview.
- Ensure that your work is clear and legible.
- Some evidence will be external to the worksheets, for example, print-outs, video or photographic evidence, created documents, files saved on the computer, etc.
- You will be required to undertake your own research for certain tasks; access to the Internet will be an advantage.
- Take an active role in discussions.
- Your answers must always be your own!
- All health, safety and hygiene procedures must be followed throughout the course.

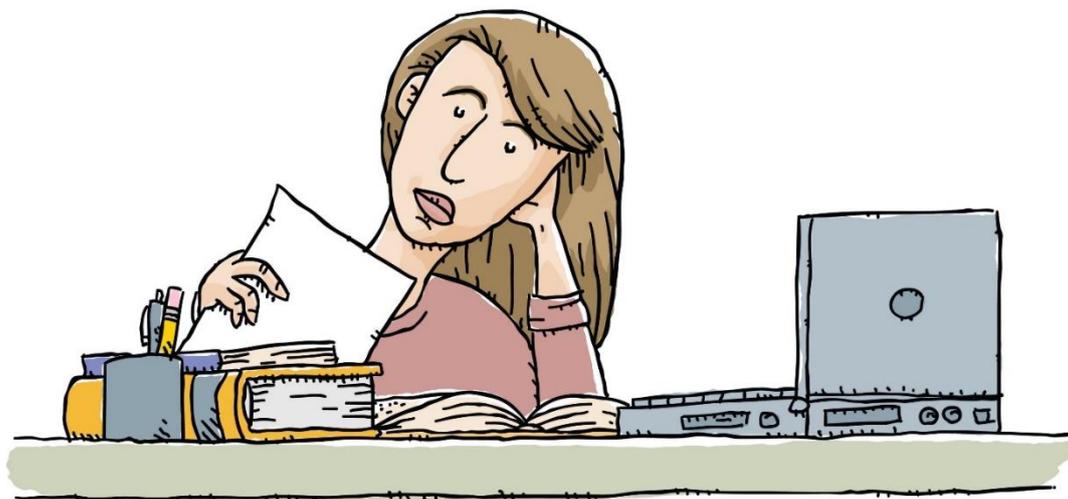
## ENJOY THE COURSE!

## NOTE TO THE TUTOR & STUDENTS

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This is a set of worksheets / exercises to be used as practice or assessment for the course.

- Both the theory and practical tasks will need to be completed.
- Spreadsheets to be downloaded and edited are available for the tutor and are emailed with the link. They are also available for download on the website:
- Students should save all spreadsheets in their own folder on the computer / server.
- Students should type their name in the footer of every document.
- Students should undertake much practice before completing their assessments.
- Students should use the spellchecker to check for spelling and grammar errors, as well as reading through or proofreading their documents.
- Students may need to carry out some of their own research, in the library or online, e.g. spreadsheet vocabulary.
- All health, safety and hygiene procedures must be adhered to during the course.
- Ensure that evidence for the practical tasks, e.g. photographic and/or video evidence, printed worksheets / workbooks, saved digital folders, etc. are included with the portfolio and clearly labelled.



## COURSE OVERVIEW FOR LEVEL 3 SPREADSHEETS

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To be successful on this course, you will be expected to do the following:

1. Outline the significance of using spreadsheet applications in terms of their common uses and features.
2. Explain spreadsheet terminology.
3. Use a spreadsheet application to open an existing workbook, access a worksheet, print a hardcopy of the worksheet and exit the application.
4. Enter data to a spreadsheet, including formatting rows and columns, applying data formats and moving information within the worksheet.
5. Use formulae to perform simple calculations including addition, subtraction, multiplication and division.
6. Produce a hardcopy printout from a spreadsheet taking all required steps including creating a workbook, entering data into a worksheet, applying suitable formatting, previewing and printing the cell range, saving the workbook, and closing the spreadsheet application.
7. Apply appropriate health, safety and personal hygiene procedures when working in an ICT environment.

Assessment Technique: Skills Demonstration 60%, Collection of Work 40%.

You will be given tuition during class time and all areas of the course will be covered. It is your responsibility to attend classes regularly and to keep up with the work. If you experience any difficulties during the course, please inform the tutor.

Signed:

Date:





## ASSESSMENT BRIEF 1

Course:	Spreadsheets
Course Code:	3N0542
Assessment:	Skills Demonstration / Collection of Work
Title:	<u>SPREADSHEET THEORY</u>
Weighting:	Skills Demonstration 60%, Collection of Work 40% %.

### Guidelines

You will be expected to:

1. Outline the significance of using spreadsheet applications in terms of their common uses and features.
2. Explain terminology associated with spreadsheets including workbook, worksheet, cell, tab, formula, filtering, sorting, function, and chart.
3. Apply appropriate health, safety and personal hygiene procedures when working in an ICT environment.

### Assessment criteria

- Exercises and tasks must be complete and correct.
- Show an understanding of basic spreadsheet uses, features, terminology and theory, to include: everyday uses of spreadsheets, some features of spreadsheets that you will use, spreadsheet tools, toolbar, parts of a spreadsheet, functions, etc.
- Follow all health, safety and hygiene procedures, to include: ergonomics, healthy posture, preventing R.S.I., preventing eye strain, care when using electrical equipment, preventing injuries, doing office exercises and keeping your work area clean and tidy.
- List and demonstrate healthy, safe and hygienic practices when working on the computer.

Submission date:

Declaration of Authenticity: I confirm that this is my own original work.

Signed:

Date:

## HEALTH, SAFETY AND HYGIENE

1. What helps create a healthy, safe and hygienic working environment when using computers? Complete the sentences.

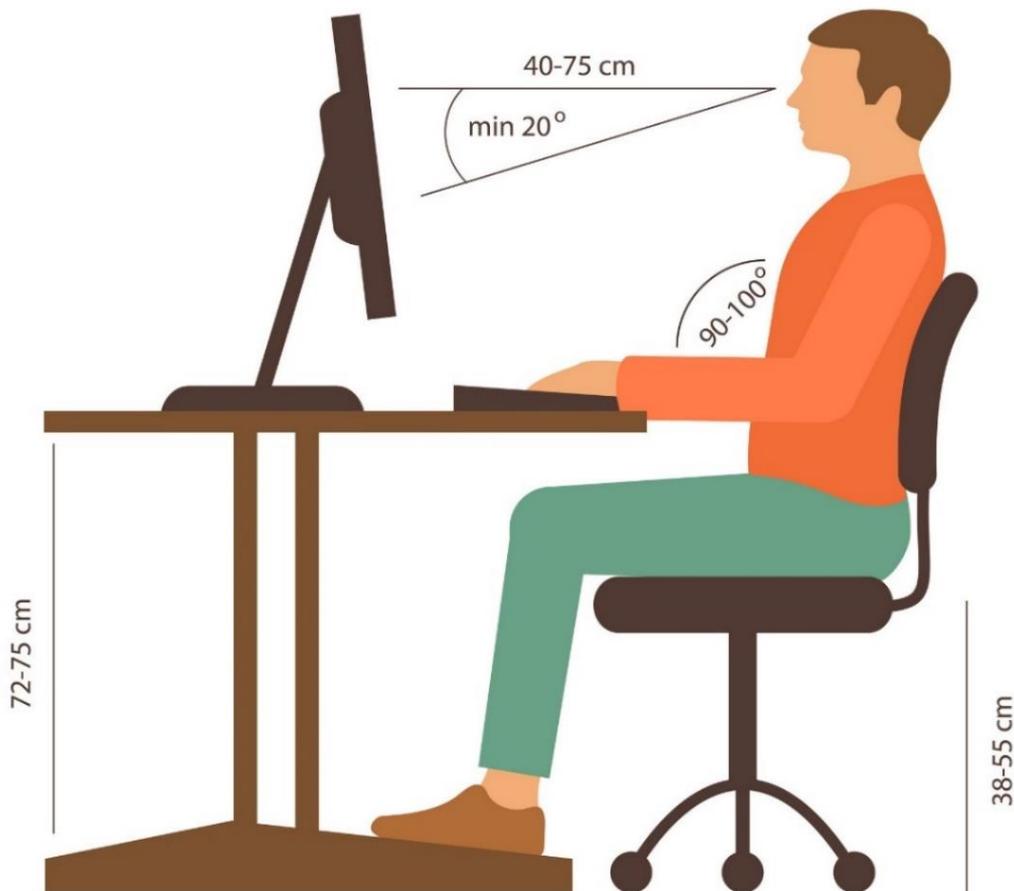
chair, bags, breaks, lighting, power, posture, adequate, hazard, heights, visible

- a) Make sure the monitor, keyboard and mouse are at the right heights.
- b) Make sure that what you are working from is clearly visible.
- c) Make sure your posture is correct when sitting in front of a computer.
- d) Use an adjustable chair.
- e) Make sure there is adequate lighting where work is being undertaken.
- f) Make sure there is adequate ventilation.
- g) Take frequent breaks away from the computer.
- h) Make sure that power cables are carefully placed so as not to be a tripping hazard.
- i) Make sure that power points are not overloaded.
- j) Place personal belongings, such as bags, out of the way of others when using the computer.



2. Look at the diagram below. Write the ideal measurements for practising safety at the computer:

- a) The distance between your eyes and the screen 40 - 75 cm
- b) The distance between the desk and the floor. 72 - 75 cm
- c) The distance between the chair seat and floor. 38 - 55 cm
- d) The angle of your forearm to your chest. 90 - 100 degrees
- e) The angle of the screen centre to your eyes. min 20 degrees



3. Practise sitting at the computer, using the above measurements.

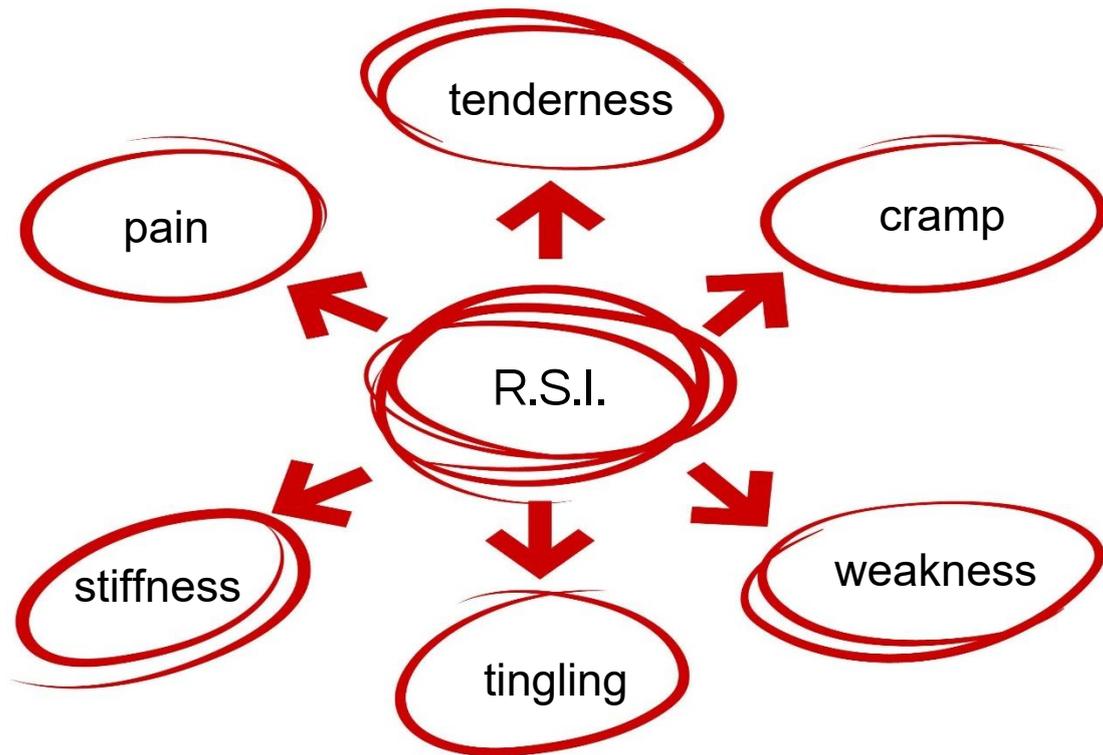
4. Repetitive strain injury is a general term used to describe the pain felt in muscles, nerves and tendons caused by repetitive movement and overuse.

a) What does R.S.I. stand for?

**Repetitive Strain Injury**

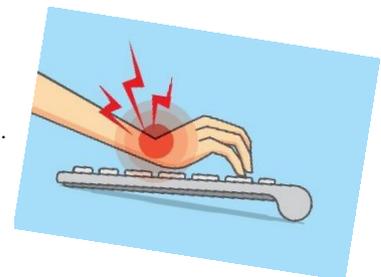
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b) Do some research and find out some of the symptoms of R.S.I. Write them below:



c) What can you do to prevent R.S.I.? Tick the correct sentences:

- Take regular breaks to rest your hands.
- Type as fast as you can.
- Use an ergonomic keyboard/mouse.
- Arrange your workspace so you are not cramped.
- Only type for three hours before taking a rest.
- Use a wrist rest.
- Slump in your chair so your hands are relaxed.
- Make sure the room is at a comfortable temperature.
- Keep your keyboard on an uneven surface.



Back ache and neck ache can cause great pain and affect the quality of your life. The key to reducing wrist, finger, neck and back pain is ergonomics. Ergonomics focuses on creating comfortable environments for people. Adjustable chairs, Wrist rests etc are examples of ergonomics.

5. Match the sentences and the missing words:

- a) Poor **ergonomics** can cause back pain. feet
- b) Work in a **spacious** workspace. spacious
- c) Take **regular** breaks to stretch your body. chair
- d) Sit **upright** against the back rest. wrist
- e) Use an adjustable **chair**. ergonomics
- f) Keep your **feet** flat on the floor. Keep
- g) **Keep** your mouse close to you. regular
- h) Use a **wrist** rest. upright



6. Circle the best posture out of all four.



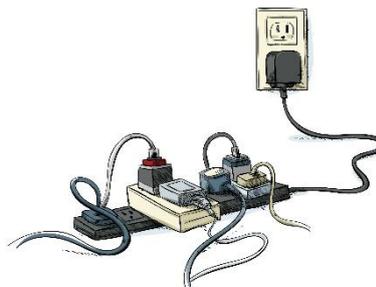


8. Take care when you use electrical equipment! Complete the sentences.

wet, socket, fire, vents, wires, off, electrical, plugged, technician,  
extinguisher, device, dangerous, liquids

- a) Most ICT devices require an **electrical** power source.
- b) Whenever you have electrical power sources you run the risk of electrocution and **fire**.
- c) Be careful not to spill **liquids** over electrical equipment.
- d) Do not open up an electrical **device** when you don't know what you're doing.
- e) Make sure **wires** are insulated.
- f) Report any malfunctioning equipment to a **technician**.
- g) Never touch electrical appliances with **wet** hands.
- h) Broken plugs or loose wires are **dangerous**.
- i) Turn **off** power points before plugging/unplugging appliances.
- j) If too many devices are plugged into a **socket**, it is possible to overload the circuit and start an electrical fire.
- k) Do not leave devices **plugged** in unattended for long periods.
- l) Do not cover air **vents** on devices like laptops.
- m) Have a CO2 fire **extinguisher** at hand.

**CAUTION**





9. Here are some examples of injuries. In each case, state how the injury could have been prevented.

- a) Ben suffered burns from a fire caused by spilling a drink on a computer.

**Keep food and drinks away from the computer.**

- b) Kyle suffered a head injury after a computer stored on top of a wardrobe fell on him.

**Always place heavy items on lower shelves.**

- c) Dave suffered the effects of an electric shock whilst setting up his computer.

**Switch off devices when you are connecting them.**

- d) Rosie, who worked at her computer for seven hours every day, was off work for two weeks after suffering severe back pain.

**Take regular breaks from the computer.**

- e) Matt suffered a sprained wrist after playing computer games for five hours.

**Take regular breaks when using ICT equipment.**

- f) Sinead tripped over trailing cords in the office and she sprained her ankle.

**Keep wires and cords neatly tucked away.**

- g) Stephen had to seek medical advice for neck pain after using an uncomfortable computer chair.

**Use a comfortable and adjustable chair.**



10. Read the text and answer the questions:

Your computer environment should be clean and tidy. If your environment is dirty, you are putting your health at risk.

No-one wants to go to work in a grubby environment. When your space is clean and tidy, you will be in a better frame of mind to work, which will boost your productivity.

If your space is tidy and organised, you will know where to locate all your things, and this will lessen frustration and stress.

If you don't look after your office equipment then it won't last or work as well as it should. Over time, dust and dirt will naturally build up on computer screens, keyboards, printers, etc.

So, keep your environment clean. Use anti-static dust wipes to get rid of dust and grubby fingerprints on computer/laptop screens. You can use compressed air to clean between the keys on your keyboard. Only use your computer with clean hands and use hand sanitiser to kill germs.

a) Why should you keep your computer environment clean and tidy? Give 3 reasons.

**To prevent germs and getting ill, to help you locate your items, to reduce stress, to work in a nice environment, to lengthen the life span of your devices, etc.**



b) How can you keep your keyboard clean?

**Use compressed air / earbuds**

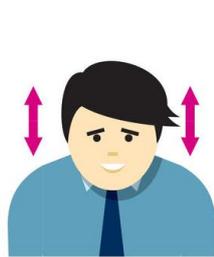
c) What should you use to dust your computer?

**Anti-static dust wipes**

d) Why should your hands be clean when using the computer?

**To prevent the spread of germs**

II. Practise these exercises while sitting at your desk.



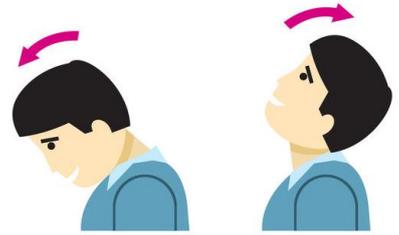
**SHOULDERS**  
3-5 seconds / 3 times



**NECK**  
5-10 seconds / 5 times



**TURN HEAD**  
5-10 seconds / 3 times



**HEAD UP AND DOWN**  
5-10 seconds / 3 times



**BEND**



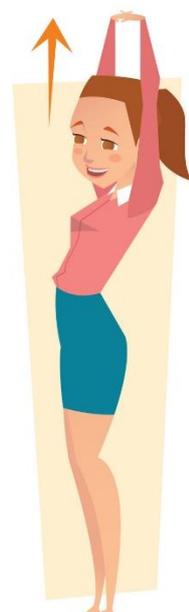
**UP-DOWN LEGS**



**BEND FORWARD**

**Take a few minutes to Relax!**

Also get up and stretch!



12. Complete the safety checklist.

Answer the questions	Yes	No
<b>Posture</b>		
Is your head/neck upright and centred over your shoulders at the computer		
Are your shoulders in a relaxed position when your hands are on the keyboard?		
<b>Keyboard</b>		
Is the keyboard positioned directly in front of you?		
Is the keyboard and mouse within easy reach?		
Is the mouse at the same level as your keyboard?		
<b>Chair</b>		
Is the height of your chair adjustable?		
Are your feet flat on the floor?		
Are you able to move your legs freely under the desk?		
Are your hips as far back in the chair as possible?		
Is your back touching the chair back?		
Does the back of your chair support your lower back?		
Is your chair in good condition?		
<b>Computer screen</b>		
Is your screen at the right distance away from you?		
Is your computer screen at the proper tilt and height?		
Are you sitting directly in front of your computer screen?		
Is the top of the monitor below eye level?		
Is there no glare on your computer screen?		
Have you changed the display settings to suit you?		
<b>Lighting</b>		
Is there sufficient light for you to complete tasks without straining your eyes?		
Is there natural light in the room?		
<b>Work techniques</b>		
Are your shoulders relaxed when keying and using the mouse?		
Are your wrists straight when you are typing?		
Are you hitting the keyboard keys with as light a force as possible when typing?		
Are you holding your mouse loosely with your hand?		
Are your fingers in a relaxed position when moving the mouse?		
<b>Breaks</b>		
Do you take 10 -15 second breaks at least every 20 minutes?		
Do you periodically roll, blink, or close eyes tightly for a few seconds?		
<b>Exercise</b>		
Do you regularly perform office exercises?		
Do you take time to get up and stretch once in a while?		
<b>Hygiene</b>		
Is your computer screen clean?		
Is your computer environment free from dust and dirt?		
Is there enough fresh air?		
Are your hands always clean when you use the computer?		
<b>Stress</b>		
Do you work at a steady pace, without rushing?		
Do you work calmly, without getting angry or frustrated?		
<b>Environment</b>		
Is the room temperature comfortable?		
Are all cables and wires neatly tucked away?		
Are the noise levels conducive to working?		

13. List 5 ways in which you can practise healthy, safe and hygienic practices when working on the computer.

- Keep your work area clean and tidy.
- Wash you hands before using the computer.
- Do not overload power sockets.
- Do not leave wires or cords trailing across the floor.
- When your computer is broken, call a technician.
- Keep liquids away from electrical devices.
- Take regular breaks from the computer.
- Ensure there is no glare on your screen.
- Make sure there is sufficient air flow in the room.
- Make sure the room is at a comfortable temperature.
- Do regular exercises at your desk.
- Do stretching exercises every now and then.
- Use a comfortable, adjustable computer chair.
- Have a good posture when sitting at the computer.
- Keep your feet flat on the floor.
- Make sure your monitor is at the correct distance.
- Do not work in a cramped environment.
- Work at a steady pace; do not rush. etc. etc.



14. Practise all the health, safety and hygiene practices while you do this course.

## SPREADSHEET USES AND FEATURES

I. Read the text and answer the questions:



The three most common general uses for spreadsheet software are to create budgets, produce graphs and charts, and for storing and sorting data.

A helpful feature of spreadsheets is using basic formulas to work out various sums.

One of the main uses for spreadsheets is in business. Spreadsheets can be used to forecast sales and show graphically how

sales will rise or drop based on past events. Spreadsheets can also be used to work out interest rates and monthly payments based on variables such as time or amount borrowed.

Another use for spreadsheets is in education where they can be used to store students' personal data along with marks. This data can then be used to predict a student's overall or average grade or forecast how they will do at higher levels. Charts can be created, e.g. displaying the pass percentages for the school or centre. The spreadsheets can also be used to record pay records for staff of the school and when they get paid and how much they get paid.

Spreadsheets can be used in health care to record patients' details for easy access by doctors and other staff. These records can contain all vital information about patients to save time in treating them. Spreadsheets can help with current trends and will aid health care services to plan accordingly for the future.

Spreadsheets can be used by shopkeepers to keep detailed lists of their stock, how much the item costs and the bar code number of the item. Spreadsheets can be used to record sales of each item in stock and then use graphs to see which items are selling well, and also what items are not selling so that stock can be amended accordingly. VAT and Tax returns can also be calculated with spreadsheets.

These are just some uses of spreadsheets. Other uses include: planning, lists, budgeting, data analysis, accounting, time sheets, business predictions, wages, invoices, checklists, record-keeping and flow charts.

a) Name one way in which spreadsheets can be used in health care.

**To record patients' details**

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b) Name one way in which spreadsheets can be used in business.

**To work out interest rates**

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c) What are the three most common uses of spreadsheets?

**to create budgets, to produce graphs or charts, to store and sort data**

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d) Name one way in which spreadsheets could help a shopkeeper.

**To keep detailed lists of stock**

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e) In which sector can spreadsheets be used to store students' personal details and exam results?

**Education**

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f) How could you use spreadsheets in your everyday life?

**Student's answer**

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2. Tick the types of spreadsheets that are available:

- Purchased spreadsheets, e.g.  
Microsoft Excel
- Free open source spreadsheets
- Microsoft Word spreadsheets
- Online spreadsheets, e.g. Google  
Docs
- Commercial spreadsheets



3. Why do we use spreadsheets? Choose the correct answers.

a) Spreadsheets \_\_\_\_\_ the repetition of tasks involving calculations.

increase

reduce

b) Setting up a spreadsheet can save \_\_\_\_\_ as it does not need to be set up from scratch every time.

paper

time

c) The spreadsheet application performs \_\_\_\_\_, that once setup, can be reused.

calculations

numbers

d) Spreadsheets can produce \_\_\_\_\_ allowing for easier reading of data.

images

charts

e) Spreadsheets can be used for budgeting, bookkeeping, planning and

\_\_\_\_\_

advertising

record-keeping



4. Name 2 ways in which using spreadsheets can be of benefit to a student:



Students can use spreadsheets to create:  
a budget, an exam schedule, a study planner,  
a timetable, a grocery list, a calendar,  
a book list, a to-do list, a menu planner, a  
contact list, a checklist, an exercise schedule, etc.

5. List 5 uses of spreadsheets in a restaurant:



wages, stock-taking, VAT returns,  
costings, profit, work schedules, calendar, planner, trends,  
record-keeping, accounting, invoices, checklists,  
sorting data, e.g. by cost, by ingredient, by sale price,  
by popularity, etc.



15. What are the features of a spreadsheet? Complete the sentences.

alphabetical, fill, Bar, right, columns, dragging, Functions, multiplication, seconds, cells, data, printing

- a) A spreadsheet is a large sheet having data and information arranged in rows and columns.
- b) Spreadsheets are useful in entering, editing, analysing and storing data.
- c) Mathematical operations can be used such as addition, subtraction, multiplication and division.
- d) You can sort numbers/characters according to some given criteria, e.g. alphabetical order, ascending, descending etc.



**Some of the main features:**

- e) AutoSum helps you to add the contents of a cluster of adjacent cells.
- f) AutoFill allows you to quickly fill cells with repetitive or sequential data such as chronological dates or numbers, and repeated text.
- g) Functions are used to evaluate values and perform different operations.
- h) The printing feature is used to obtain a hard-copy of prepared spreadsheets.
- i) Drag and Drop will help you to reposition the data and text by simply dragging the data with the help of mouse.
- j) Charts will help you to present a graphical representation of your data in the form of Pie, Bar, Line charts and more.
- k) The PivotTable flips and sums data in seconds and allows you to perform data analysis and generation of reports.
- l) Shortcut Menus that are appropriate to the task that you are doing will appear by clicking the right mouse button.

16. Match the types of tools and examples

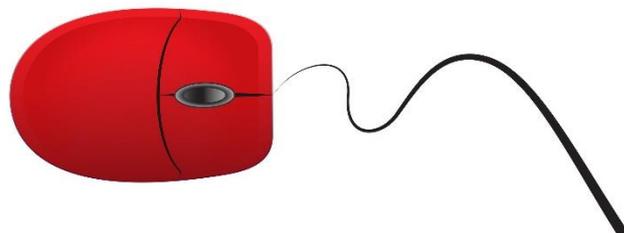
Types of tools	Examples of tools
For opening existing files <b>Open</b>	Currency format
For inserting, deleting data <b>Insert shape</b>	Paste values
For formatting data <b>Underline text</b>	Save as
For applying data types <b>Currency format</b>	Open
For spell checking data entered <b>Review - Spelling</b>	Underline text
For copying, cutting and pasting data <b>Paste values</b>	Copy formula (fx)
For page layout, page previewing and printing files <b>Page Layout</b>	Insert shape
For copying formulae <b>Copy formula (fx)</b>	Review - Spelling
For saving files for reuse <b>Save as</b>	Page Layout - Margins

17. Name 3 common features of spreadsheets.



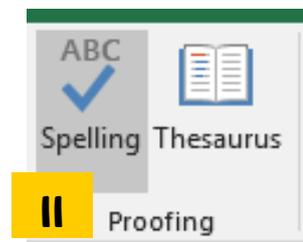
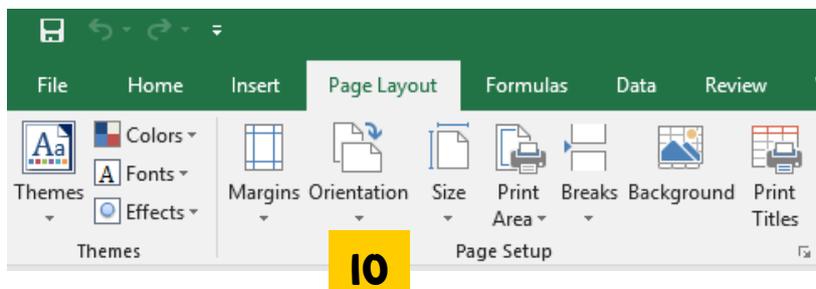
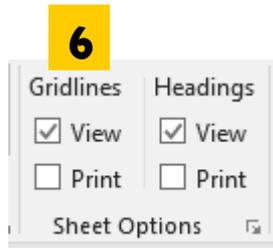
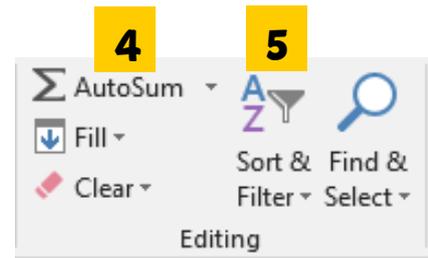
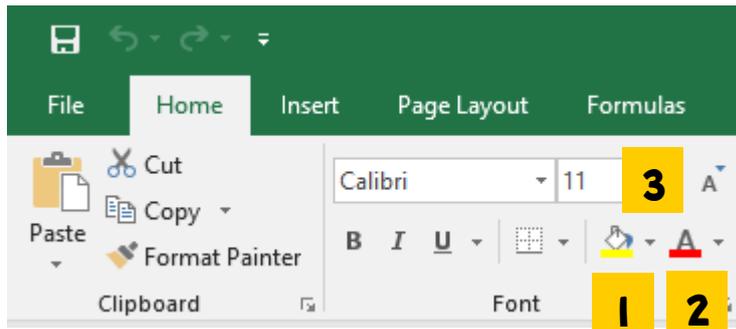
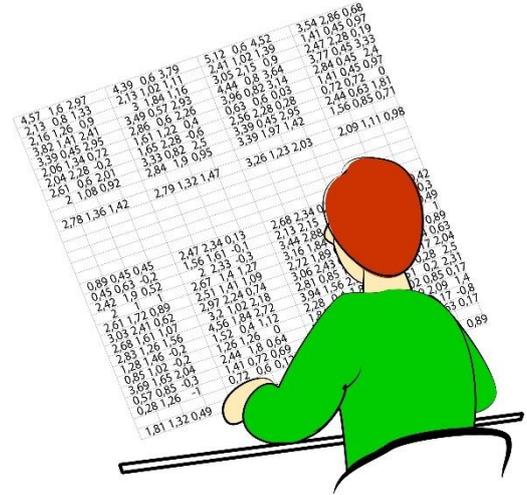
columns and rows, using formulae to do calculations, using different operations, AutoSum, AutoFill, cell reference, using functions, copying formulae, applying different data types, producing charts, saving files, printing files, spell checker, etc.

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18. Look at the spreadsheet icons / descriptions below and state which ones you would use to do the following:

- a) Check spelling throughout the document. 11
- b) Change the orientation to landscape. 10
- c) Change the formula. 12
- d) Change the font size. 3
- e) Sort the data in ascending order. 5
- f) Change the data to euro currency. 9
- g) Merge and centre data in cells. 8
- h) Change the font colour. 2
- i) Use AutoSum to add data. 4
- j) Centre align data. 7
- k) Turn on gridlines for printing. 6
- l) Shade in cell using colour. 1



## SPREADSHEET TERMINOLOGY

1. Complete the sentences:

numbers, easily, tab, addition, worksheets, cells,  
workbooks, formula, rows

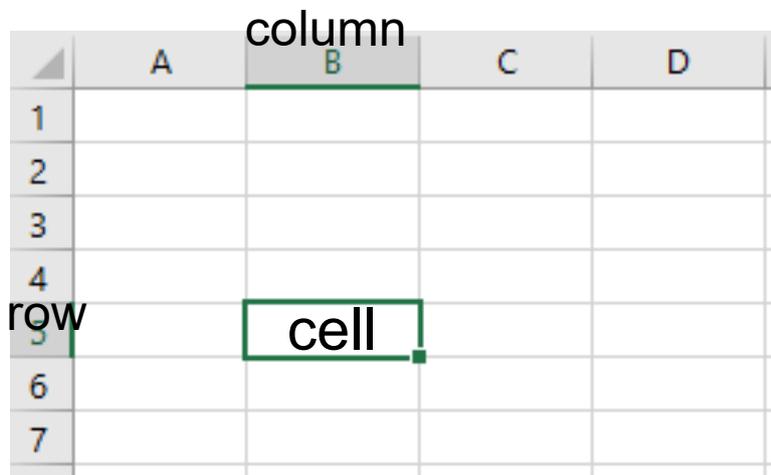
- a) Spreadsheets files are called workbooks.
- b) Each workbook is organised into worksheets.
- c) Spreadsheets are organised in a grid structure consisting of columns and rows.
- d) Columns are denoted by letters, rows are denoted by numbers.
- e) A1, C20, D12, etc. are examples of cells.
- f) To move from one cell to another, you can use the tab key instead of using the mouse.
- g) =C3\*D3 This is an example of a formula.
- h) Spreadsheets can be filtered and sorted so that data can be more easily found.
- i) The SUM function will use addition in the formula.



2. Circle the correct words in each sentence:

- a) Each worksheet has a name located in the footer / header **tab.**
- b) Each rectangle on the screen is called a number / letter **cell.**
- c) Each cell has a cell **address** / formula / data.
- d) In the cell C20, the number 20 refers to the heading **row / column.**
- e) A **row / column** / formula is a horizontal collection of cells.
- f) PowerPoint **Excel** / Outlook is a spreadsheet software program.
- g) The cell you are currently working on is called the working / **active cell.**
- h) A workbook is a collection of **worksheets** / cells / formulae.
- i) The column letter and the row number of a cell is called the cell **name / label** / reference.
- j) A formula must always start with an **=** / + / X sign

3. Use these labels on the diagram below: row, column, cell



4. Read the information, explore the concepts with a spreadsheet, and answer the questions:

There are three types of data that can be entered into a spreadsheet:

A. Labels or Text

Labels denote what type of numbers or calculations are displayed under a column heading or on a row. Labels may consist of both numbers and letters, examples include **Name, Month, Total, Average, Product A1, and Product A2.**



B. Numbers

There are different types of numbers that can be entered into a spreadsheet, examples include integers, decimals, currency and percentages.



C. Formulae and Functions

Formulae and Functions are used to perform calculations.

They always begin with an = sign.

If an = sign is not entered, the formula will be displayed as text and the answer to the calculation will not be calculated.

a) Name 3 types of numbers that can be entered into a spreadsheet.

**decimals, currency, percentages**

b) What are formulae and functions used for?

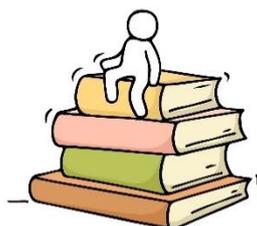
**to perform calculations**

c) What is a row or column heading called?

**label**

d) With which symbol does a formula start?

**=**



5. Use the following labels on the spreadsheet below: label, number, currency, formula, cell reference, active cell

cell reference

formula

active cell

F3									
=SUM(D3:E3)									
Salary April									
	Number	Sales Rep	Employer Number	Product 1	Product 2	Rep totals			
3	1	1 Sleeping Beauty	353	€356.00	€300.00	€690.00			
4	2	2 Little Mermaid	354	€366.00	€367.00	€733.00			
5	3	3 Peter Pan	355	€378.00	€389.00	€767.00			
6	4	4 Snow White	356	€333.00	€376.00	€709.00			

number

label

currency

6. Interpret this spreadsheet formula:

=D3-C3					
	A	B	C	D	E
1	Sales Report for present stock items				
2	Prod Code	Description	Production cost	Sales price	Profit
3	58234	DVD covers	€ 0.99	€ 1.88	€ 0.89
4	52344	DVD/CD labels	€ 0.55	€ 1.05	€ 0.50
5	50923	Earphones	€ 9.99	€ 18.98	€ 8.99
6	51212	DVD markers	€ 2.38	€ 4.52	€ 2.14

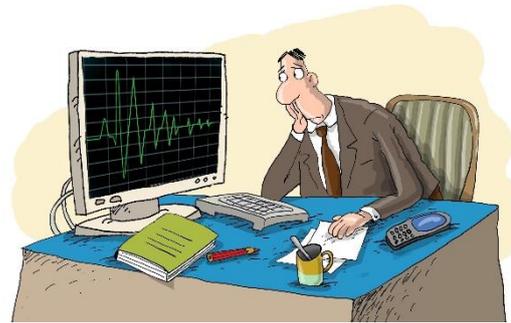
The formula will work out the Sales price minus the Production cost, e.g. 1.88 - 0.99



7. Read the information:

The following mathematical symbols are used in formulae:

- + plus, add
- minus, subtract
- \* multiply, multiplication, product
- / divide, division.



*Note that cell addresses are used in a calculation and not the numbers in the cells!*

8. What do the mathematical symbols mean? Write these as maths sums.

=A1+A2, =B1-B2, =A1\*G4, =D3/A3

**A1 + A2**

---

**B1 - B2**

---

**A1 x G4**

---

**D3 ÷ A3**

---

9. Give 2 examples of a formula:

**Student's answer**

---



---



10. Read the information:

Use **Functions** in spreadsheets whereby a range of cells to add can be entered rather than each cell individually.

For example, =A1+A2+A3+A4.....+A100 (this would be tedious!)

Rather: =SUM(A1:A100).

Functions are denoted by keywords and have syntax rules to determine how they are structured.

11. I want to add K3, K4, K5, K6.....up to K102; what formula can I use?

**=sum(k3:k102)**



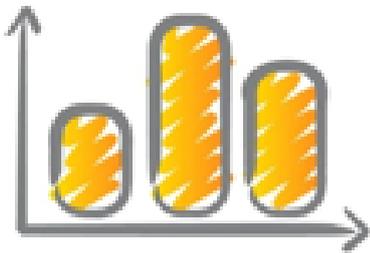
12. Complete the sentences about charts:

**list, online, pie, chart**

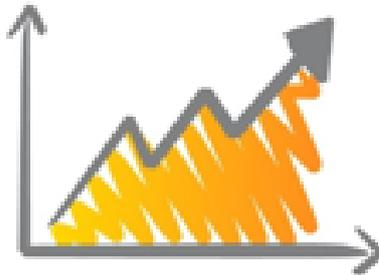


- a) Spreadsheets have a **chart** facility.
- b) Basic chart types include bar, column, **pie** and line charts.
- c) It is easier to read a chart compared to a **list** of numbers.
- d) The chart features are available in free open source spreadsheets and **online** spreadsheets.

13. Name these types of charts:



bar



line



pie

14. These are error messages you may get. Write the error message for each description:

#NUM!

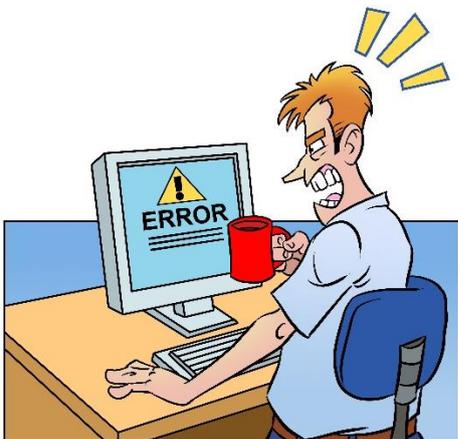
#REF!

#VALUE!

#DIV/0!

#NULL!

#NAME?



a) Trying to divide by 0     #DIV/0!    

b) The wrong type of operand or function argument is used     #VALUE!    

c) Text in the formula is not recognised     #NAME?    

d) A formula has invalid numeric data for the type of operation     #NUM!    

e) A reference is invalid     #REF!    

f) A space was used in formulas that reference multiple ranges; a comma separates range references     #NULL!

15. Choose the correct answers about filtering and sorting.

a) When spreadsheets become large, it may be difficult to see all the \_\_\_\_\_ on the screen at the same time.

- worksheets  
 data

b) Spreadsheets can be \_\_\_\_\_ to limit the display of data on the screen.

- filtered  
 deleted

c) Spreadsheets can be filtered to limit the display of data to be \_\_\_\_\_

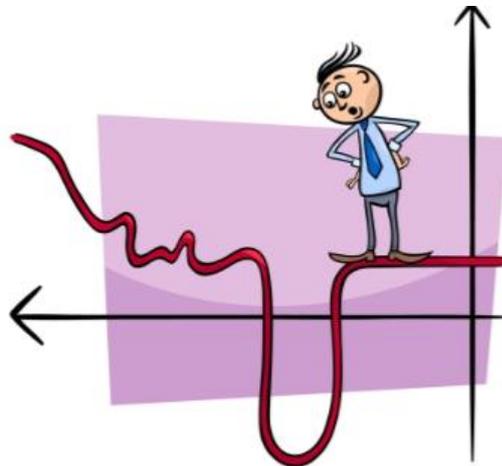
- printed  
 typed

d) When you want data to be organised alphabetically, you use the \_\_\_\_\_ icon.

- Find and select  
 Sort and filter

e) If you sort data, for example, from 1 to 100, you are sorting the data in \_\_\_\_\_ order.

- ascending  
 descending



All the answers for these are separate files.

## Assessment Brief 2



Course: Spreadsheets  
 Course Code: 3N0542  
 Assessment: Skills Demonstration / Collection of Work  
 Title: USING SPREADSHEETS  
 Weighting: Skills Demonstration 60%, Collection of Work 40%.

### Guidelines

You will be expected to:

1. Use a spreadsheet application to open an existing workbook, access a worksheet, print a hardcopy of the worksheet and exit the application.
2. Enter data into a spreadsheet.
3. Use formulae to perform simple calculations including addition, subtraction, multiplication and division.
4. Produce a hardcopy printout from a spreadsheet taking all required steps.
5. Apply appropriate health, safety and personal hygiene procedures when working in an ICT environment.

### Assessment criteria

- Exercises and tasks must be complete and correct.
- Open existing spreadsheet files and edit and amend according to instructions.
- Enter data to include formatting rows and columns, applying data formats, inserting and deleting rows, columns and worksheets, using formulae and moving information within the worksheet
- Produce a hard copy of a spreadsheet to include creating a workbook, entering data into a worksheet, applying suitable formatting, previewing and printing the cell range, saving the workbook, and closing the spreadsheet application
- Follow all health, safety and hygiene procedures.

Submission date:

Declaration of Authenticity: I confirm that this is my own original work.

Signed:

Date:

## USING THE SPREADSHEET

### Basic Spreadsheet Practice

#### Practice 1

---

- a) Can you open up a blank spreadsheet?
- b) Can you enter the words: 'Colour' in cell A1, 'Cost' into B1, 'Amount' into C1, 'Subtotal' into D1, and 'Total' into C6
- c) Can you write the word 'Red' in A2?
- d) Can you write the word 'Blue' in A3?
- e) Can you write the word 'Green' in A4?

#### Practice 2

---

- a) Can you make the cells A2, A3, A4 the colour of the word written in them?
- b) Can you make the font size 22?
- c) Can you alter the width of the cells to make the text fit into the cells?
- d) Can you make all of the text 'Arial Black'?

#### Practice 3

---

- a) Enter the following amounts into the following cells:
 

■ B2 12.5	■ B4 5.5	■ C3 5
■ B3 10.5	■ C2 3	■ C4 2
- b) Using the options in the 'Home' tool bar, change the number type in the 'B' column so that all the data is displayed as currency (euro) with 2 decimal places.

#### Practice 4

---

- a) Can you enter formulae into D2 which multiplies the amount by the cost? (Hint: \* means multiply!)
- b) Can you repeat this formula without rewriting it for D3 and D4?
- c) Can you enter formulae into D6 using the AutoSum button which adds up all the data in the D column so you have a running total so far?

#### Practice 5

---

- a) Insert a new column at the start of your spreadsheet so that A becomes blank.
- b) Make up a suitable product name for an item that could be sold in red, blue and green and write a label for this column.
- c) Tidy up your spreadsheet.

### Exercise 1

- a) Open the spreadsheet **Products**.
- b) Save the spreadsheet as **Products**.
- c) Ensure that all text can be read – widen columns as necessary.
- d) Make the heading **Products** bold and size 16.
- e) Merge and centre the heading.
- f) Embolden and centre all the labels from **Number** to **Profit**.
- g) Change the Prod Code of the Apron from **66** to **68**.
- h) Delete Row 10 with the product **Ornament**.
- i) Change the page orientation to Landscape.
- j) Use AutoSum to add the profit column.
- k) Make this total size 16, red and bold.
- l) Spell check and proofread the spreadsheet.
- m) Save all the changes.
- n) Print the spreadsheet.
- o) Exit from the application and shut down the computer.



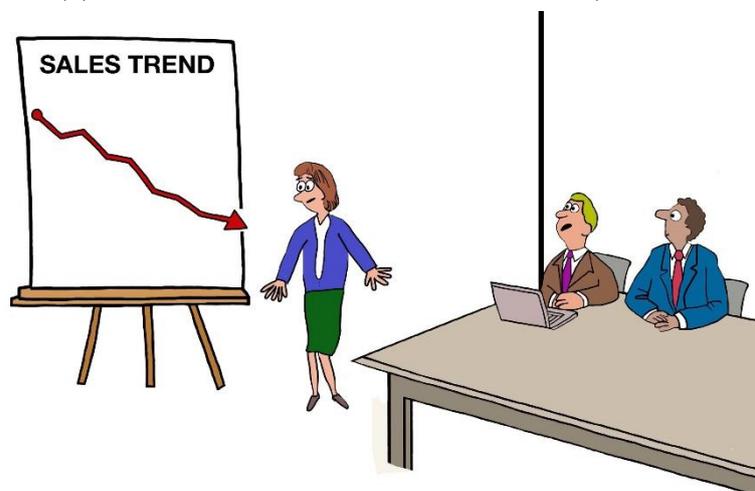
## Exercise 2

- a) Open the spreadsheet **Stock**.
- b) Save the spreadsheet as **Stock**.
- c) In the worksheet **Report**, merge and centre the heading **Sales Report**.
- d) Embolden the heading **Sales Report**.
- e) Embolden and centre the column labels from **Prod Code** to **Profit**.
- f) Left align the items in the **Description** column from **Cup** to **Plate**  
**300mm**.
- g) Insert a row above the product **Plate 300 mm** and insert the following information: Prod Code: **20522**, Description: **Sugar bowl**, Production cost: **2.50**, Sales Price - use the same formula, Quantity: **1409**. For the profit for this new item, copy the formula.
- h) Change the page orientation to Landscape.
- i) Ensure the spreadsheet fits on one page. Do a print preview.
- j) Spell check and proofread the spreadsheet.
- k) Turn on gridlines for printing.
- l) Save all changes.
- m) Print the spreadsheet.
- n) Exit from the application and shut down the computer.



Exercise 3

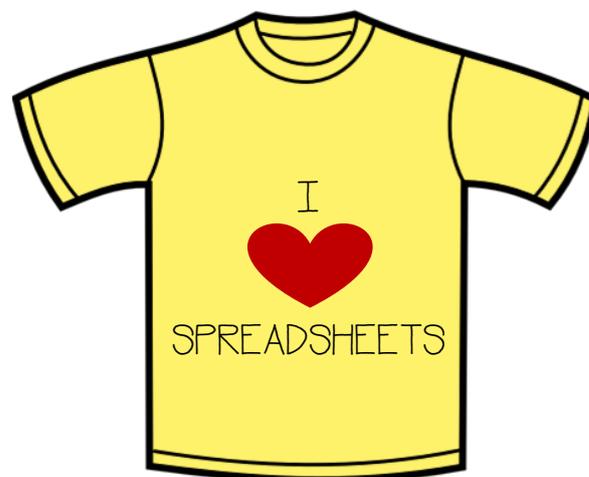
- a) Open the spreadsheet **Wages**.
- b) Save as **Wages**.
- c) Open the Worksheet **Pay**.
- d) Embolden, merge and centre the overall heading
- e) Embolden and centre the column labels.
- f) Left align the names under the **Sales Rep** column.
- g) Delete the row with **Paul Finnegan**.
- h) Change Colm Henry's Employer Number from **10328** to **10228**.
- i) Change the data type to currency (euro, 2 decimal places) for Product Totals **2340** and **2410**.
- j) Rename the worksheet from **Pay** to **Salary**.
- k) Delete the Worksheet **Graph**.
- l) Change the page orientation to landscape.
- m) Switch on gridlines for printing.
- n) Do a print preview to check that the spreadsheet will fit on one page.
- o) Print the spreadsheet.
- p) Exit from the application and shut down the computer.



**“I wouldn't stand there, if I were you.”**

### Exercise 4

- a) Open the spreadsheet **Magazine\_sales**.
- b) In D4, work out the **profit**. Use a formula to subtract the cost price from the sales price, e.g. =C4 - B4.
- c) In F4, work out the **total profit** by multiplying the profit by the number sold.
- d) Add the magazine **Easy DIY** in A5 with a cost price of **4.75** and a sale price of **6.85**.
- e) Work out the profit in D5. Use a formula to subtract the cost price from the sales price, e.g. =C5 - B5
- f) The number of Easy DIY magazines sold is **120**. Work out the total profit by multiplying the profit by the number sold.
- g) In F6, use a formula to add the three total profits together.
- h) For the total profit, change the font to **bold** and red.
- i) Change the data type to **currency** (euro, 2 decimal places) in all relevant cells. (Not in Number sold column)
- j) Ensure the page layout is landscape.
- k) Turn on gridlines for printing.
- l) Do a print preview to check that the spreadsheet will fit on one page.
- m) Print the spreadsheet.
- n) Exit from the application and shut down the computer.
- o) If you found this exercise a little tricky, download the spreadsheet again and re-do it.

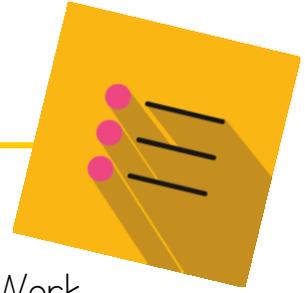


Exercise 5

- a) Open the spreadsheet **Tourist\_Cafe**.
- b) Save the spreadsheet as **Tourist\_Cafe**.
- c) Make these amendments:
- Change the Product Code for Fridge Magnet from **54** to **55**.
  - Change the Production Cost for the Apron from **€16.90** to **€17.50**.
  - Change the quantity of Jumper from **76** to **96**.
  - Change the Stock remaining for T-shirt from **34** to **26**.
- d) Merge and centre the overall heading **Sales Report**.
- e) Make the overall heading bold and 18 pt.
- f) Delete record number 9 with **Pen set**.
- g) After Product number 10 (Picture), insert a row and add this record:  
Number - 11, Prod Code - 61, Description - Key ring, Production cost €4.95, Quantity - 520, Stock remaining - 53
- h) Delete the column **Number**.
- i) Make the **Total Profit** figure red, bold and 18 pt.
- j) Change the name of the worksheet **Sheet 3** to **Graph**.
- k) Add another worksheet and call it **Items**.
- l) Copy the Description column from the Stock worksheet to this new worksheet **Items**.
- m) Ensure the page layout for the worksheet **Stock** is landscape.



- n) Turn on gridlines for printing.
- o) Do a print preview to check that the worksheet **Stock** will fit on one page.
- p) Save all changes.
- q) Print the worksheet.
- r) Exit from the application and shut down the computer.



## Assessment Brief 3

Course:	Spreadsheets
Course Code:	3N0542
Assessment:	Skills Demonstration / Collection of Work
Title:	<u>CREATING A WORKBOOK</u>
Weighting:	Skills Demonstration 60%, Collection of Work 40% %.

### Guidelines

You will be expected to:

1. Enter data into a spreadsheet.
2. Use formulae to perform simple calculations including addition, subtraction, multiplication and division.
3. Produce a hardcopy printout from a spreadsheet.
4. Apply appropriate health, safety and personal hygiene procedures when working in an ICT environment.

### Assessment criteria

- Exercises and tasks must be complete and correct.
- Entering data includes formatting rows and columns, applying data formats, inserting and deleting rows, columns and worksheets, using formulae and moving information within the worksheet
- Producing a hard copy of a spreadsheet includes creating a workbook, entering data into a worksheet, applying suitable formatting, previewing and printing the cell range, saving the workbook, and closing the spreadsheet application
- Follow all health, safety and hygiene procedures.

Submission date:

Declaration of Authenticity: I confirm that this is my own original work.

Signed:

Date:

## CREATING A WORKSHEET AND WORKBOOK



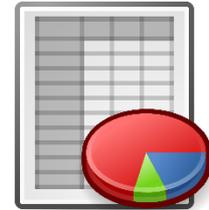
### Exercise 1

- Open the spreadsheet application you are using.
- Enter the following data into a spreadsheet.

Sales Rep	Employer Number	Product 1	Product 2
Maguire, Anthony	74	312	103
Martin, Philip	26	231	83
Jacobs, Peter	51	467	97

- Save the spreadsheet as **Reps**.
- Make sure that all text is visible – widen columns as necessary.
- Embolden and centre the column labels.
- Copy the row with **Peter Jacobs** and paste it below the row you copied.
- Swap the rows with **Philip Martin** and **Anthony Maguire** so that Philip Martin appears first. Use cut and paste.
- Use AutoSum to add up the totals for Products 1 and 2.
- Shade the cells with these totals in blue.
- Name the worksheet **Sales**. Add another worksheet and call it **Profits**.
- Spell check and proofread the spreadsheet.
- Ensure the page layout is landscape.
- Turn on gridlines for printing.
- Save changes.
- Do a print preview to check that the spreadsheet will fit on one page.
- Print the worksheet **Reps**.
- Close the application and shut down the computer.





**Exercise 2**

- a) Open the spreadsheet application you are using.
- b) Enter the following data into a spreadsheet.

Number	Businesses	Monthly Earnings	No. of Sales
1	Books Galore	20632	900
2	Carpet Man	20831	71
3	Market Fresh	10328	1004
4	Brady's Carwash	16293	876
5	The Hobby House	13723	554
6	Big Bites	14589	1450
7	The Beauty Bar	19821	512
8	Streaks Ahead	12843	256
	Totals		

- c) Save the spreadsheet as **Business**.
- d) Adjust columns so that all data is visible.
- e) Insert a row at the top and write a heading **Business**.
- f) Merge and centre the heading.
- g) Change the heading font to size 20 and shade in yellow.
- h) Embolden and centre all column labels.
- i) Format the cells in the **Monthly Earnings** column to currency - euro and 2 decimal places.
- j) Use a formula to add the total amount for **Monthly Earnings**. Ensure the total is in euro.
- k) Use a formula to add the total amount for **No. of Sales**.
- l) Name the worksheet **Earnings**.
- m) Copy the Business column (from Businesses to Streaks Ahead) and paste it into a new worksheet.
- n) Name the worksheet **Companies**.
- o) Spell check and proofread the spreadsheet.
- p) Turn on gridlines for printing.
- q) Change the page orientation to landscape.
- r) Save changes to the workbook.
- s) Print the workbook. (both worksheets)
- t) Exit from the application and shut down the computer.



**Exercise 3**

- a) Open the spreadsheet application you are using.  
 b) Enter the following data into a spreadsheet:

Sales Totals			
Month	Total sold	No. of salespersons	Average sales
January	350	5	
February	600	6	
March	750	5	



- c) Save the worksheet as **Average**.  
 d) Adjust columns so that all data is visible.  
 e) Merge and centre the heading **Sales Totals**.  
 f) Shade the overall heading in orange.  
 g) Embolden the column labels.  
 h) Under the column heading **Average sales**, work out the average sales for each

month by dividing the **Total sold** by the **No. of salespersons**.

- i) Copy the formula down for February and March.  
 j) Format the cells in the **Total sold** and **Average sales** to currency - euro, 2 decimal places.  
 k) Change the **No. of salespersons** for February from **6** to **4**.  
 l) Proofread and check the document.  
 m) Turn on gridlines for printing.  
 n) Change orientation to landscape.  
 o) Print only the cells with data.  
 p) Exit from the application and shut down the computer.

**Exercise 4**

- a) Set up a spreadsheet with the headings shown, and input the data as shown below.

Sales Report				
Prod Code	Description	Production cost	Sales price	Profit
15674	A4 notepads	0.99		
15934	Glue	1.19		
15231	Large files	1.10		
15900	Ruler	0.32		
15233	Envelopes	1.03		
14896	Stapler	4.50		
14893	Paper ream	1.12		

- b) Save the spreadsheet as **Report**.
- c) Adjust columns so that all data is visible.
- d) Merge and centre the overall heading **Sales Report**.
- e) Shade the overall heading in light green.
- f) Embolden and centre the column labels.
- g) Use a formula in D3 to calculate the **Sales Price** as **1.95 times** the **Production Cost**.
- h) Copy the formula down for each item.
- i) Use a formula to calculate the **Profit**, for each item, as the Sales Price minus the Production Cost.
- j) Copy the formula down for each item.
- k) In A10, type the word **TOTALS**.

- l) Use the SUM function to calculate the Total for the **Production cost**, the **Sales price** and the **Profit**.
- m) Display the data in columns C, D and E in currency format (euro), with two decimal places.
- n) Delete the rows with **Prod Code 15934**.
- o) Insert a row under Product Code 14893 Paper ream and add this product:

15552	Folders	€1.29			1922	
-------	---------	-------	--	--	------	--

(formulae and totals should change automatically; if they don't, copy the formulae down)

- p) Rename Sheet 1 to **Stock**.
- q) Copy all the data and paste it into a new worksheet.
- r) Name this new worksheet **Copy**.
- s) Proofread and check the document.
- t) Turn on gridlines for printing.
- u) Change the page orientation to landscape.
- v) Save all changes.
- w) Print the worksheet **Stock**.



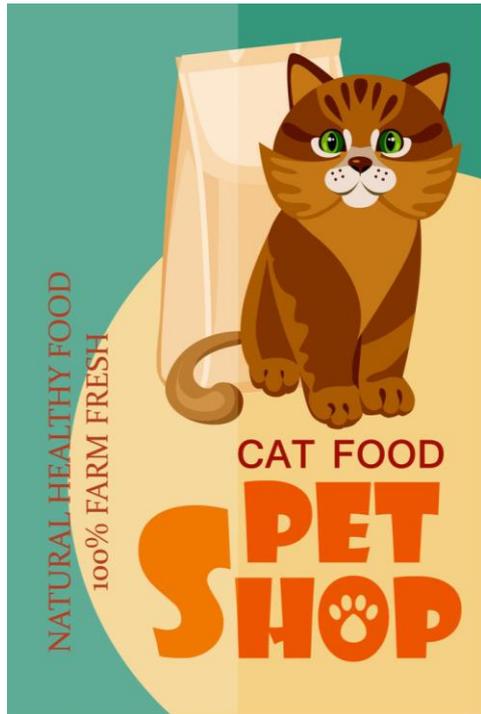
**Exercise 5:**

- a) Set up the spreadsheet with the headings shown, and input the data as shown below.

Pet Shop Items						
Prod Code	Description	Production cost	Sales price	Profit	Quantity	Total profit
23	Dog food	0.99			134	
28	Cat food	0.99			76	
19	Dog collar	3.99			159	
54	Cat collar	3.49			354	
21	Food bowl	1.20			341	
98	Water bowl	1.20			562	
76	Dog treats	0.95			164	
62	Cat treats	0.90			86	
38	Cat basket	5.90			103	
59	Dog blanket	6.19			32	
					Total:	

- b) Save the spreadsheet as **Pet\_Shop**.
- c) Adjust columns so that all data is visible.
- d) Merge and centre the overall heading **Pet Shop Items**.
- e) Shade the overall heading in light blue.
- f) Embolden and centre the column labels.
- g) Print the spreadsheet, using landscape orientation and gridlines.
- h) Change the Production cost for Dog treats from **0.95** to **1.25**.





- i) Change the Description for Product Code 59 from **Dog blanket** to **Dog basket**.
- j) Save the spreadsheet as **Pet\_Shop\_1**.
- k) Print the spreadsheet, using landscape orientation and gridlines.
- l) Use a formula to calculate the **Sales Price**, for each item, as **1.63** times the Production Cost. Copy the formula down.
- m) Use a formula to calculate the **Profit**, for each item, as the Sales Price minus the Production Cost. Copy the formula down.
- n) Work out the **Total Profit** for each item by multiplying the profit by the quantity sold.
- o) Use the SUM function to calculate the Total for the Total Profit column.
- p) Display relevant data in currency format, in the appropriate position, with two decimal places. (Production cost, Sales price, Profit and Total Profit)
- q) Proofread and check the document.
- r) Save the spreadsheet as **Pet\_Shop\_2**.
- s) Print one copy of the spreadsheet, ensuring orientation is landscape and gridlines are on.



Checklist!

Tick each task as you complete it.

- Access a spreadsheet application from the Start menu.
- Access a spreadsheet application from the desktop icon.
- Access an online spreadsheet application (if you are using these)
- Create a new spreadsheet from toolbars / icons / menu options.
- Open an existing spreadsheet from toolbars / icons / menu options.
- Save a spreadsheet from toolbars / icons / menu options.
- Rename a spreadsheet.
- Close a spreadsheet from toolbars / icons / menu options.
- Create a number of spreadsheets beginning with a simple layout leading to a spreadsheet existing of up to 6 columns and 6 rows, including label headings and blank rows.
- Enter a range of data into a new spreadsheet using an appropriate layout taking into account column and row labels and blank rows/columns.
- Enter a range of data into an existing spreadsheet.
- Delete data in a cell.
- Use the mouse to select the correct cell to enter data.
- Widen columns to view data larger than the cell.
- Insert / delete rows and columns.
- Insert / delete / rename worksheets.
- Apply data formats, for example, currency, dates, percentages, etc.
- Format rows and columns including applying font styles and sizes, applying bold, italic and underlining to data, aligning text, merging cells
- Cutting / copying and pasting data within a worksheet using one of the following methods - the icon method, right click method or keyboard shortcut method.



## LEARNING OUTCOMES OF LEVEL 3 SPREADSHEETS

The learner will be able to:

1. Outline the significance of using spreadsheet applications in terms of their common uses and features **Pages 18 to 24 (spreadsheet uses and features)**

2. Explain rudimentary terminology associated with spreadsheets including workbook, worksheet, cell, tab, formula, filtering, sorting, function, and chart **Pages 25 to 32 (terminology)**

3. Use a spreadsheet application to open an existing workbook, access a worksheet, print a hardcopy of the worksheet and exit the application **Pages 35 to 39 (using a spreadsheet application)**

4. Enter data to a spreadsheet to include formatting rows and columns, applying data formats, inserting and deleting rows, columns and worksheets, and moving information within the worksheet **Pages 35 to 39 (using a spreadsheet application), Pages 41 to 47 (creating worksheet / workbook)**



5. Use formulae to perform simple calculations including addition, subtraction, multiplication and division **Pages 38, 41, 42, 43, 44, 47 (using formulae)**

6. Produce a hardcopy printout from a spreadsheet taking all required steps including creating a workbook, entering data into a worksheet, applying suitable formatting, previewing and printing the cell range, saving the workbook, and closing the spreadsheet application **Pages 41 to 47 (creating worksheet / workbook)**

7. Apply appropriate health, safety and personal hygiene procedures when working in an ICT environment. **Pages 7 to 17 (health, safety and hygiene in an ICT environment), throughout the course**