Computing Studies

Computer Applications

[INTERMEDIATE 1]

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Learning
+Teaching
Scotland

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Throughout this pack users are referred to online activities – 'Open Exercise 3' (etc.).

These exercises may be downloaded from the Computing section of NQOnline. Check the subject pages in the e-library at www.LTScotland.org.uk/NQ

SECTION 1

Computer software

What is software?

Software is the collective name for programs that can run on your computer. These programs contain a set of instructions that the computer follows:

Software can be divided into 2 distinct areas:

- **System software**
- **Application software**

System software can be used to:
- receive signals from keyboard and mouse
- send the correct signals to the monitor or printer
- store documents on disk

Examples of system software are:
- Windows XP, Windows 2000 on PC computers
- MacOS 10 on Apple Computers

Application software can be used to:
- write letters
- perform calculations
- store and organise information
- draw pictures
- play games

Examples of application software are:
- word processor
- spreadsheet
- database
- graphics

Test yourself

Exercise 1

1. Use the following words to complete the sentences.

Graphics	**Spreadsheets**
Word processing	**Databases**

Each word can be used only **once**.

(a) To write a letter on the computer a secretary would use _____ software.

(b) To store a list of all her patients' names and addresses a dentist would use _____ software.

(c) To draw a logo on the computer an artist would use _____ software.

(d) Cells, formula, values and text are used in _____ software.

2. Are there any other application packages you have used?

List them below and what you used them for.

Application package	Uses

Ask your tutor to check your answers.

3. **Mapsoft Ltd** produces an application package to help you plan journeys in Great Britain. It is called *Map Britain* and comes in a sealed box. Here is a copy of the box cover and the items inside. Look at these carefully and then answer the questions below.

(a) What is the name of the company that produces the package?

(b) What is the name of the software package?

(c) Where in the package is the software stored?

(d) Name 2 computers that can run this software.

(e) You want to install the software onto your computer. Which part of the package tells you how to do this?

(f) Where would you find instructions on how to use the package?

(g) Is **Map Britain** an example of system software or application software?

Computer hardware

- Input devices
- Output devices
- Backing storage devices

Input devices

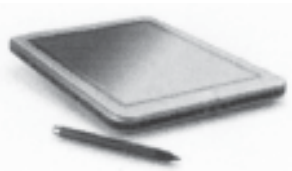
Mouse

This is a simple input device that is used along with a keyboard. The mouse moves an arrow or pointer around the screen. As the mouse moves around the top of the desk, the arrow on the screen moves also. You use the mouse to point to things on the screen and then select them using one of the buttons on the top of the mouse.

Keyboard

The keyboard is made up of lots of keys which, when they are pressed, cause a certain signal to be sent to the computer. This signal tells the computer which key on the keyboard has been pressed. A standard computer keyboard is sometimes called a 'QWERTY' keyboard – the top row of letters on the keyboard.

Graphics tablet



A graphics tablet is a flat pad with electronic sensors below the surface. These sensors detect the movements of the pointing device (stylus) and move the pointer on the screen. This device is used as input to computer-aided design (CAD) systems.

Touchpad

A touchpad is a small touch-sensitive pad. The pad senses the movements of the user's finger on the pad and the pointer on the screen moves accordingly. You use a touchpad instead of a mouse on notebook and laptop computers.

Scanner

A scanner is used to take information stored on paper and read it into a computer system. Scanners can be used to convert photographs, paintings and typed text into a form that can be stored in a computer. A flatbed scanner, like the one shown here, reads documents placed face down on it like a photocopier.

Digital camera

A digital camera catches the light coming in from the lens just as a normal camera does and converts the light into digital form. This is stored on a flash card. The digital camera has a small screen which enables users to view the photographs as they take them.

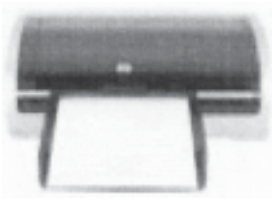
Output devices

Printers

Laser

Laser printers make printouts in the same way that a photocopier makes a copy. They produce very high-quality printouts and work very quietly but some are expensive to buy. They can produce between eight and twelve pages in a minute. They can print in either black and white or colour.

Inkjet



Inkjet printers produce printouts by firing tiny drops of ink at the paper. Each drop makes up part of the letter or picture. Inkjet printers are cheaper than laser printers. They produce good-quality printouts and do not make much noise. They can print out between two and five pages in a minute. Most inkjet printers can also print in colour.

Monitor (Visual Display Unit)

The monitor or VDU is another common form of output device. This is the screen that we look at to see what we are doing on the computer.

Flat Screen Monitor (TFT)

Monitor (CRT)

Backing storage devices

Floppy disk

A floppy disk is made out of flexible plastic and is coated with magnetic material. The plastic disk is inside a protective case. It usually holds 1.44Mb of memory.

Hard disk

This is a solid disk made of metal, which is permanently fixed inside the computer. A hard disk is not portable like a floppy disk. But it works in the same way. Although a hard disk and a floppy disk may be the same size to look at, you can store more data on the hard disk. Hard disks can also spin at higher speeds than floppy disks. This means that data can be read from a hard disk faster than it can be read from a floppy disk.

CD-ROM, CD-R, CD-RW and DVDs
These all look the same.

CD-ROM
Compact Disc Read Only Memory is an optical form of storing data. It uses a laser to store and read the data. The ROMs are read only and therefore can only be written to once. Nowadays software such as games and application programs come on CD-ROMs.

CD-R
Compact Disc Recordable. Once you have written to a CD-R the user cannot amend or delete it. Once the data has been written to it works just like a CD-ROM.

CD-RW
Compact Disc Rewritable. This disk works just like a hard disk or floppy disk. Users can change or update the data whenever they like.

***DVD Devices** (Digital Versatile Disk)*
This is a high-storage medium that looks the same as a CD-ROM. However, a DVD can hold much more than a CD-ROM – approximately 5 times the amount of a CD. A DVD uses a laser to read the data.

USB Flash Drive
USB – Universal Serial Bus. This is a portable back-up facility that plugs into the computer's USB port. The computer recognises the flash drive as another area where the user can store information, i.e. you can use the flash drive just like a floppy disk and save files such as word processing, music (mp3), etc.

Storage requirements

Computer memory

How does the computer store things in memory?
The computer works on electricity. Electricity inside a computer can be **ON** or **OFF**. It has what we call **two states**. The ON state has a value of 1 and the OFF state has a value of 0. All information used by a computer system must be stored as a pattern of ones and zeros.

Bits, bytes and binary units of storage
Each of these ones or zeros is called a **b**inary dig**it** or **bit** for short. Eight of these bits make up a **byte**. About one thousand of these bytes make a **kilobyte**.

Bit	a binary digit – 1 or 0
Byte	8 bits, i.e. 01010111
Kilobyte (Kb)	1024 bytes
Megabyte (Mb)	1024 kilobytes
Gigabytes (Gb)	1024 megabytes
Terabyte (Tb)	1024 gigabytes

Operating system

When a computer system is switched on there is a program called the operating system that is running. The operating system controls and monitors any devices that are attached to the computer system, i.e. monitor, keyboard, mouse, etc.

What the operating system does:

1. If you log onto a network in school and enter your user ID and password then this is controlled by the operating system.

2. When a key is pressed on the keyboard, the operating system checks what key has been pressed then displays it on the screen.

3. When the user moves the mouse, the operating system then moves the pointer across the screen.

4. When a program (application or game) is loaded the operating system decides where in memory to place the program.

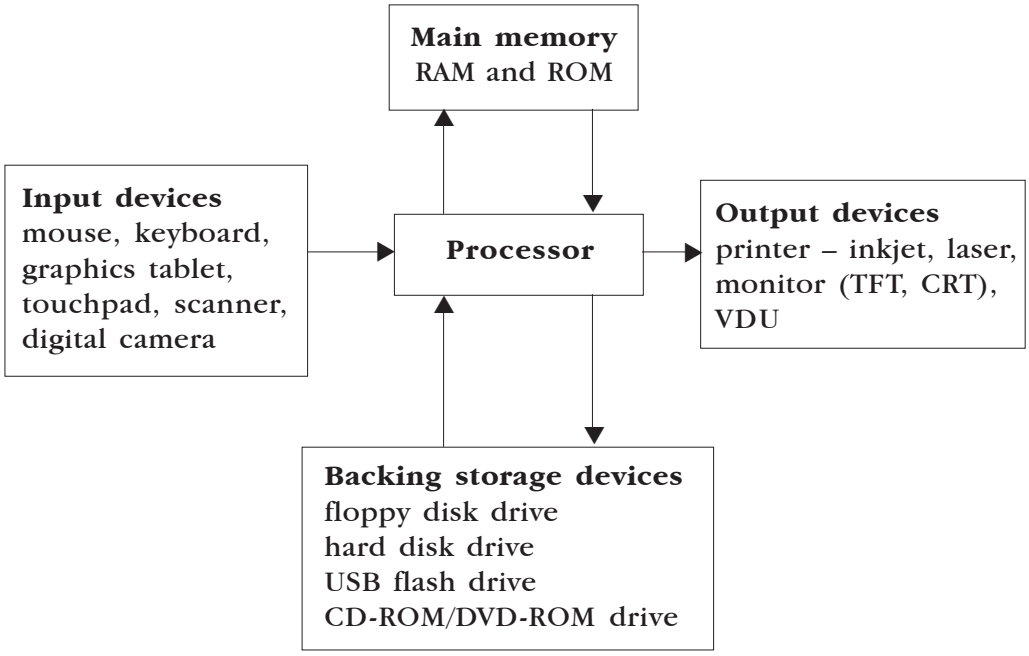
5. If you make a mistake the operating system will tell you. An error message appears on the screen.

Processor

A computer must have a **processor** (a brain) and **memory** (so that it can remember the programs and data that it is using). It must also have an **input** device (a way of putting information into the computer) and an **output** device (so that the computer can show us what it has done). Finally a computer needs **backing storage.**

Backing storage is where the computer puts all its programs and data when it is not using them. Data that needs to be saved for another day is written onto backing storage. When this data is needed again it is read from backing storage.

Block diagram of a computer system



Memory

When the computer is working all the programs and data that it is using are stored in memory. The computer has two different types of memory.

RAM Random Access Memory This kind of memory can be **read from** and **written to**. The computer uses RAM to store programs and data that it has loaded from backing storage or received from an input device. RAM stores data for as long as the computer is switched on. When the computer is switched off, all the data in RAM is lost. This is why we use **backing storage** to keep programs and data when they are not being used.	**ROM** Read Only Memory The computer can only *read* this kind of memory. The computer cannot put any data into ROM. The computer uses ROM as a library where it can find important programs and data. These programs and data are built into the ROM chip when it is made.

Test yourself

Exercise 2

1. Tick (✓) whether each of the following is input, output or backing storage devices.

Device	Input	Output	Backing storage
mouse	✓		
inkjet printer			
touchpad			
visual display unit			
USB flash drive			
CD-ROM			
graphics tablet			
laser printer			
keyboard			
digital camera			
CD-RW			
scanner			
floppy disk			

2. List the input devices of the computer system you use in class.

3. Why is a keyboard sometimes called a 'QWERTY' keyboard?

4. What output device would you use to obtain a 'hard copy'

5. What do laptop computers have instead of a mouse?

6. What is a

   (i) bit
   (ii) byte
   (iii) terabyte?

7. Fill in the blanks:

   R _ _ _ _ _A _ _ _ _ _ Memory

8. What is commonly known as the computer's brain?

   P _ _ _ _ _ _ _ _

9. When the computer is switched on a program called the
   O _ _ _ _ _ _ _ _ S _ _ _ _ _ is running.

Ask your tutor to check your answers.

Getting help

Both of the following can be used in all of the 4 application areas of word processing, spreadsheets, databases and graphics that we are going to deal with in this unit.

On-line help

This is help in the form of information screens available when you are using an application program. To access the on-line help you select the *help* button, enter a phrase or question or word on the topic you wish information on, and select *search*. A screen will appear giving you a list of options that may match your search. Select one from this, and see if it is what you are looking for.

On-line tutorial

A set of lessons (a step-by-step guide) stored on your computer that teaches you how to use the features of the application package. This set of lessons is accessed before using the application package. This feature is not available to the user while using the application package.

SECTION 2

Word-processing software

Word-processing software allows the user to:

- insert, amend and delete text
- change text font, size, style and colour
- justify the text
- use bullet points
- enter graphics and wrap text
- cut, copy and paste text
- search and replace (find and change)
- spell check
- headers and footers.

Header and footer

Application packages allow the user to place some information at the top and the bottom of each page of the document. In the header the user could place the title of the document. In the footer the user will put the page number. The computer will automatically put the correct page number on the bottom of every page.

In this document a suitable header and footer might be as follows:

Header:	Subject	'Computing Studies'
Footer:	Name of the unit	'Computer Applications'
	Page number	The number of the page

Text size, style and font size

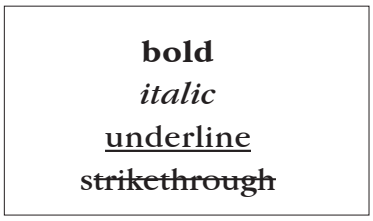
The appearance of the text on the screen can be changed in a variety of ways.

Changing size

Text can be given a different size. Some examples are:

Changing style

Text can be given a different style or effects. Some examples are:



Changing font

Text can be given a different font (writing styles). Some examples are:

Test yourself on  **headers and footers, text size, style and font size**

Exercise 3

Your tutor will demonstrate the following:

- how to insert a header and footer into a document
- change the size, font and colour.

1. Open Exercise 3. This contains text.

2. Enter the date and school name in the header.

3. Enter your name and class in the footer.

4. Select the text on the first line and change the size to 10 point.

5. Select the text on the second line and change the size to 14 point.

6. Change the style of the second line to strikethrough.

7. Make the third line 18 point, bold.

8. Make the fourth line 24 point, italic.

9. Make the second-last line 28 point, underline.

10. Select the text on the last line. Change the font to any other font on the computer. The text should look similar to this:

This text is 10 point, Plain Text.
~~This text is 14 point, Strikethrough.~~
This text is 18 point, Bold.
This text is 24 point, Italic.
This text is 28 point, Underline.
This text is in a different font.

11. Can you change the text colour of: ~~This text is 14 point, Strikethrough.~~ to blue? Show your tutor.

12. Save your document as CAEx3.

13. Print a copy for your records.

Text alignment

Text alignment is the positioning of lines of text to the left, right, centre or both margins of the page.

Most word-processing programs use buttons like these:

align left  align centre  align right  justify 

Lines of type that are in line with only the left-hand margins are **aligned left**, thus:

> Many people believe that the Aztecs first developed chocolate. However, chocolate goes back much further. The ancient Maya, who inhabited what is now part of southern Mexico and Central America, ate chocolate. The word "cacao" is Mayan: as early as 500 AD, the Mayans were writing about cacao on their pottery. Some think chocolate may be even older.

Lines of type that are centred on the page are **aligned centre**, thus:

> Many people believe that the Aztecs first developed chocolate. However, chocolate goes back much further. The ancient Maya, who inhabited what is now part of southern Mexico and Central America, ate chocolate. The word "cacao" is Mayan: as early as 500 AD, the Mayans were writing about cacao on their pottery. Some think chocolate may be even older.

Lines of type that are in line with only the right-hand margin are **aligned right**, thus:

> Many people believe that the Aztecs first developed chocolate. However, chocolate goes back much further. The ancient Maya, who inhabited what is now part of southern Mexico and Central America, ate chocolate. The word "cacao" is Mayan: as early as 500 AD, the Mayans were writing about cacao on their pottery. Some think chocolate may be even older.

Lines of type that are aligned with both left-hand and right-hand margins are **justified**, thus:

> Many people believe that the Aztecs first developed chocolate. However, chocolate goes back much further. The ancient Maya, who inhabited what is now part of southern Mexico and Central America, ate chocolate. The word "cacao" is Mayan: as early as 500 AD, the Mayans were writing about cacao on their pottery. Some think chocolate may be even older. Many people believe that the Aztecs first developed chocolate. However, chocolate goes back much further. The ancient Maya, who inhabited what is now part of southern Mexico and Central America, ate chocolate. The word "cacao" is Mayan: as early as 500 AD, the Mayans were writing about cacao on their pottery. Some think chocolate may be even older.

Test yourself on

text alignment

Exercise 4

Your tutor will demonstrate the following:

- how to align text (*left*, *centre*, *right* and *justify*)

1. Open Exercise 4. This contains text.

2. Enter the date and school name in the header.

3. Enter your name and class in the footer.

4. Place the cursor inside the first paragraph.

   Click on the Align Left button  to align the first paragraph to the left.

5. Use similar steps to centre align the second paragraph.

6. Right align the third paragraph.

7. Justify the last paragraph.

8. Save your document as CAEx4.

9. Print a copy for your records.

Bullet points

Bullet points are used commonly when displaying lists. It is best to key in the list first, and then select the bullet points.

Here is a selection of bullet points:

- input devices
- output devices
- backing storage
- processor
- memory

➢ input devices
➢ output devices
➢ backing storage
➢ processor
➢ memory

❖ input devices
❖ output devices
❖ backing storage
❖ processor
❖ memory

♦ input devices
♦ output devices
♦ backing storage
♦ processor
♦ memory

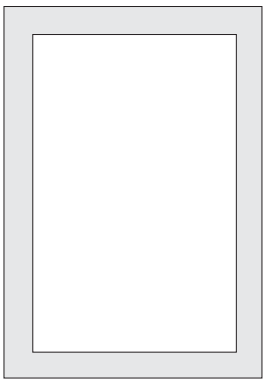
Page margins

Page margins are the empty spaces between the area where you enter text and the edge of the paper. Page margins may have to be changed if:

- you need to punch or bind one edge of the paper
- it can improve the layout of the page(s)
- you are printing on pre-printed notepaper
- the printer cannot print close to the edge of the paper.

The margins are the ***grey*** area.

The user can only use the ***white*** area in the document.



Test yourself on

page margins and bullet points

Exercise 5

Your tutor will demonstrate the following:

- how to change the page margins

1. Open Exercise 5. This contains text.

2. Enter the date and school name in the header.

3. Enter your name and class in the footer.

4. Change the margins to:

top	10 cm
bottom	3 cm
left	5 cm
right	2 cm

   Your document should now have much larger top and left margins.

5. Your tutor will show you how to enter bullet points in the word processing package.

   In the file there are 4 lines of text.

   You would like to punch or bind one edge of the paper.
   You are printing on pre-printed notepaper.
   Your page layout looks better if the margins are changed.
   The printer cannot print close to the edge of the paper.

Can you make the list of text look like the following by using bullet points:

- You would like to punch or bind one edge of the paper.
- You are printing on pre-printed notepaper.
- Your page layout looks better if the margins are changed.
- The printer cannot print close to the edge of the paper.

6. Can you change the bullet points to a numbered list like this:

   1. You would like to punch or bind one edge of the paper.
   2. You are printing on pre-printed notepaper.
   3. Your page layout looks better if the margins are changed.
   4. The printer cannot print close to the edge of the paper.

7. Save your document as CAEx5.

8. Print a copy for your records.

Tabs

Tab markers

Tab markers are used to position text across the page. They are sometimes called tab stops.

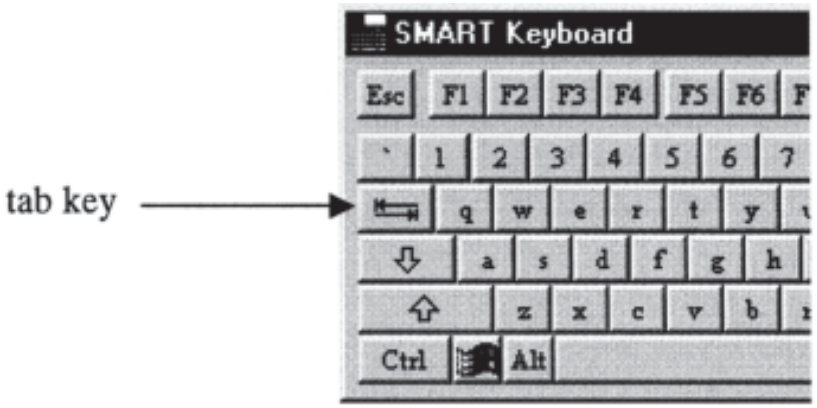
There are normally 4 different markers:

- left tab
- centre tab
- right tab
- decimal tab

What the tab markers look like depends on the text-processing package you are using.

Tab key

The tab key on the keyboard is used to move text in line with a tab marker.



Test yourself on  tabulations (tabs)

Exercise 6

Your tutor will demonstrate the following:

- how to use the tabs

1. Open Exercise 6. This contains a blank document.
2. Enter the date and school name in the header.
3. Enter your name and class in the footer.
4. Place left tab markers at 6 cm, 9 cm and 12 cm on the ruler.
5. Enter the following text and numbers.
6. Press the Tab key between each word and number.
7. The table should look like this:

Name	Computing	Info Syst	ICT
Christopher	10	6	9
Ian	4	3	8
Karen	8	6	9
Caroline	6	5	4

8. Save your document as CAEx6.
9. Print a copy for your records.

Spell checker

A spell checker has a very large dictionary of words that are spelt correctly. The spell checker goes through your document and compares all the words in your document with the words that it has in its dictionary. The spell checker highlights any words that are not in the dictionary and gives you possible alternative words from its dictionary. The user can then choose whether to change the spelling or leave the word as it is.

Advantages of a spell checker

- correct spelling in document

Limitations of a spell checker

- does not always recognise
  - proper names, i.e. Bo'ness or Motherwell
  - proper names, i.e. Derek or Caitlin
  - words that are not in the dictionary
- does not check your grammar
  - the computer will ignore words that are spelt correctly but in the wrong context. For example,

'the son goes down in the west'
should read
'the **sun** goes down in the west'

the number of goals scored by Motherwell was too'
should read
'the number of goals scored by Motherwell was **two'**

The computer accepts both sentences are correctly spelt even although the wrong versions give strange meanings.

Test yourself on

spell check

Exercise 7

Your tutor will demonstrate the following:

- how to use the spell checker.

1. Open Exercise 7. This contains text.

2. Enter the date and school name in the header.

3. Enter your name and class in the footer.

4. Spell check your document. Make the corrections.

5. Read your document on the screen to check for errors not found by Spell check.This is called proof reading. Two words may still be wrong. Can you find these words.

	Wrong Word	Correct Word
1	_____	_____
2	_____	_____

6. Correct the words in the document.

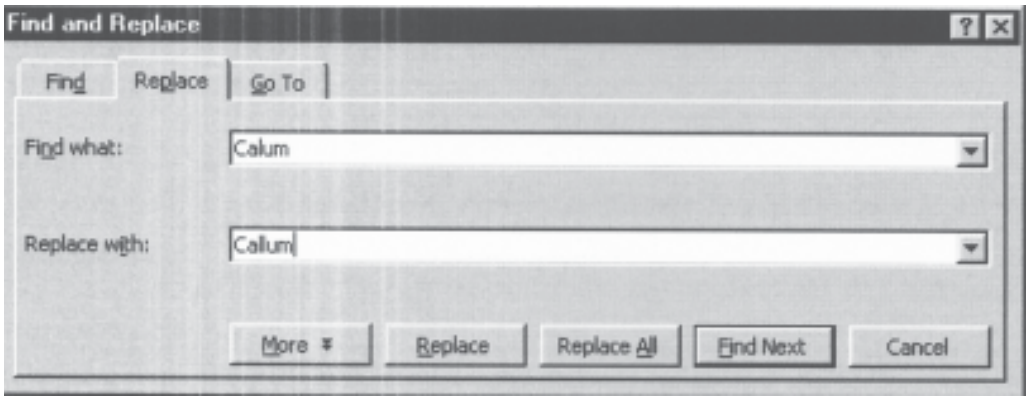
7. Save your document as CAEx7.

8. Print a copy for your records.

Search and replace (find and change)

The search and replace facility allows the user to replace one word with another throughout a document. This will save time instead of having to do the changes one at a time. If a person's name in a document was spelt wrongly then this facility would make it easy to change. For example:

a boy's name was Callum instead of Calum
a girl's name was Kathryn instead of Catherine



Clip art

Clip art is a collection of graphics that can be added to a document. These can be:

- available with the software package
- downloaded from the Internet
- bought as a collection on CD-ROM.

Test yourself on

search and replace, and inserting clip art

Exercise 8

Your tutor will demonstrate the following:

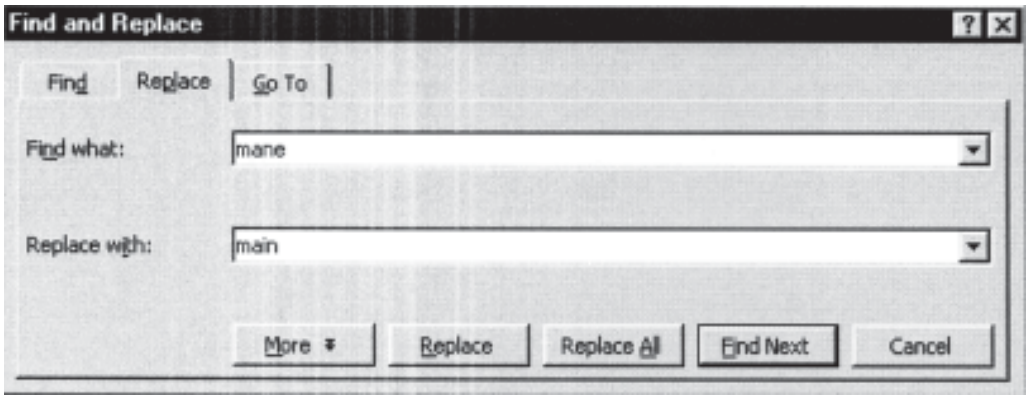
- how to use search and replace.

1. Open Exercise 8. This contains text.

2. Enter the date and school name in the header.

3. Enter your name and class in the footer.

4. You are going to use search and replace to change the following words that have been misspelt throughout the document.



   (a) You are going to find **mane** and replace it with **main**.

   (b) You are going to find **memeory** and replace it with **memory**.

5. Save your document as CAEx8A.

6. Print a copy for your records.

7. We are now going to insert a picture into the text.

8. Choose an appropriate picture(s) from clip art and insert into the document.

9. Save your document as CAEx8B.

10. Print a copy for your records.

Alternative methods of data entry

- handwriting recognition
- optical character recognition (OCR)
- voice recognition (using microphone)
- touch sensitive screen

Handwriting recognition

Before an individual person can use handwriting recognition that person has to teach the computer to recognise his or her own handwriting. The computer then reads the shape of the writing and turns the shapes into text in a word-processing document.

Optical Character Recognition (OCR)

OCR is used to convert typed paper documents into text files that can be edited and stored on a computer system. OCR software can search a scanned image for the shapes of letters, numbers, etc. When it finds shapes that match it converts them to the correct text and stores them in a file

Voice recognition

With voice recognition systems, the computer can understand the words spoken to it and can carry out commands associated with the words. Using voice recognition, a letter can be dictated (spoken) instead of being typed at the keyboard.

Many systems require the speaker to speak slowly and distinctly. Great strides have been made recently in these systems that allow you to speak naturally. There are now several systems like this available for personal computers.

For example, these systems could be useful when the user is unable to use a keyboard to enter data because his or her hands are occupied or disabled. Instead of typing commands, the user can simply speak into a **microphone**.

Touch-sensitive screen

This is a type of display screen that has a touch-sensitive panel covering the screen. Instead of using a pointing device such as a mouse you can use your finger to point directly to things on the screen.

Test yourself on

word processing – revision

Exercise 9

1. In a word-processing document where would the page number normally appear?

2. Before changing the font, text size or style in a word-processing document, what do you first have to do?

3. What change has been made to the word 'computer' printed below?

   computer *computer*

4. What change has been made to the word 'mouse' printed below?

   mouse mouse

5. Find what font and text size is used by the word-processing software when you first open a new document.

6. How many different fonts does you computer have?

7. What does this button do? 

8. Here are pictures of 4 keys on the keyboard. Which one represents the **Tab** key. (If your keyboard has the word *Tab* on the **Tab** key, find a keyboard that has symbols.)

9. When using the spell check, there could still be some mistakes in your document. Give one reason for this.

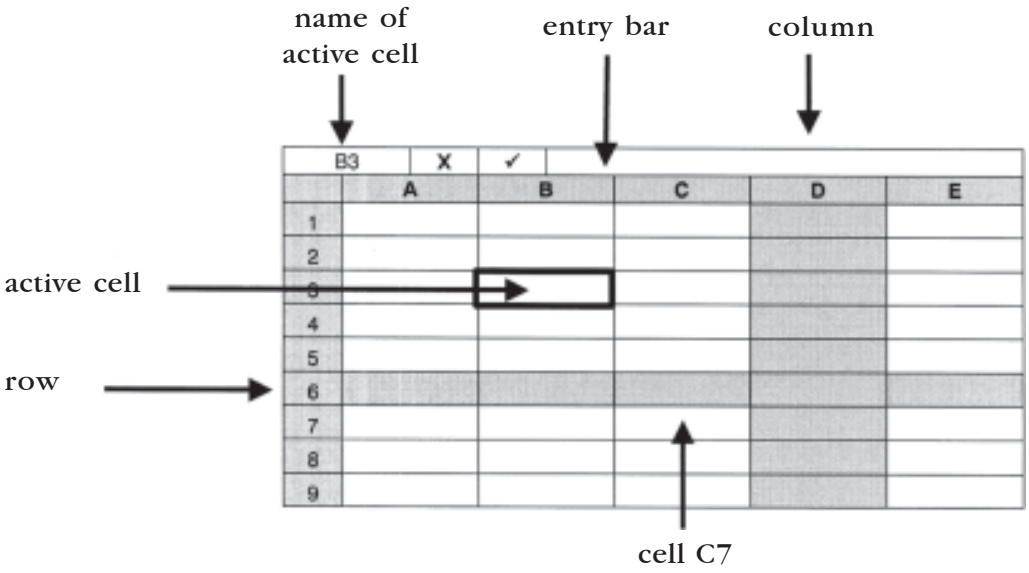
10. Give one reason for using clip art in a text document.

Ask your tutor to check your answers.

SECTION 3

Spreadsheet software

Using a spreadsheet:



A spreadsheet is a grid of **columns** and **rows**. Each column is headed by a letter and each row is headed by a number. The rectangles in the grid are called **cells**. The name of a cell is its column letter followed by its row number. So the first cell is called **A1.**

The cell with a thick border is the **active cell**. This is where any entry you make will go. Any data you type in will appear first in the **entry bar.**

Only when you click on ✓ or press **Return** will the data be stored in the active cell. To enter information to a different cell, click on that cell before typing.

Spreadsheets are used to solve problems that involve calculations.

A spreadsheet can contain:

numbers	e.g.	25
		8.9
		£125.52
text	e.g.	April
		Wage
		Total
formula	e.g.	=C4*C5
		=SUM (D4:D8)
		=AVERAGE (F3:F7)

Test yourself on

entering information

Exercise 10

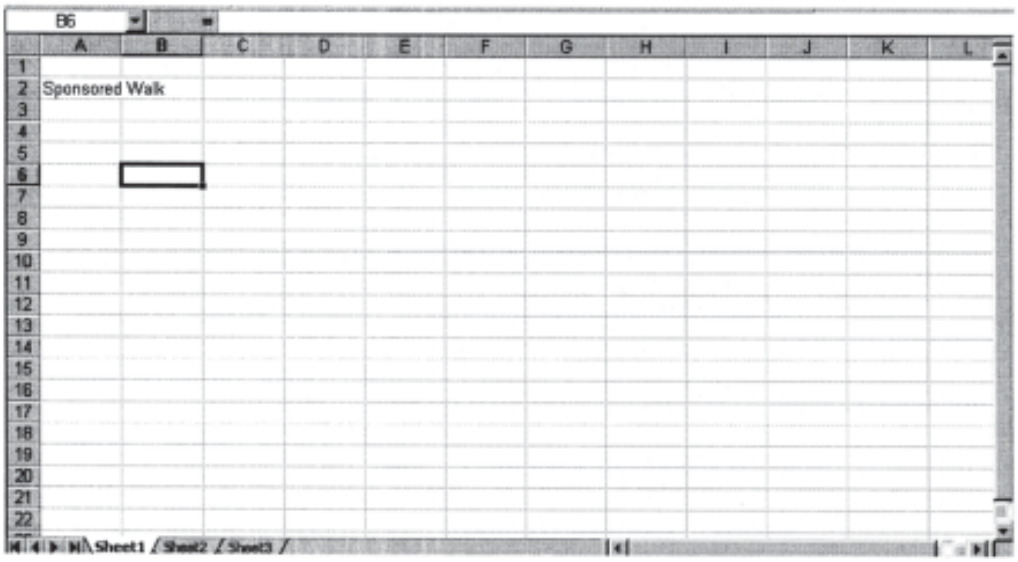
1. Open Exercise 10. This is a blank spreadsheet.

2. Enter the date and school name in the header.

3. Enter your name and class in the footer.

4. Click on cell **A2**.

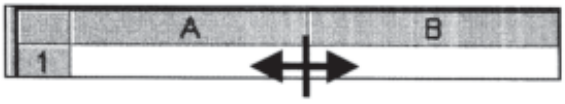
5. Type in the title *Sponsored Walk*, then press **Return.**



Sponsored Walk is too big to fit in the cell. We need to make the cell wider.

6. Move the pointer to the right border of the heading for column **A**.

Position the mouse so that the cursor changes to a double arrow.



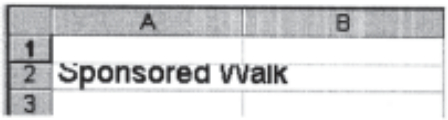
7. Click and hold down the mouse button.
   Drag the border until the column displays all of the words *Sponsored Walk* in column A.

8. Click on cell **A2**.

9. Make the words *Sponsored Walk* bold and increase the font size to 14 point.

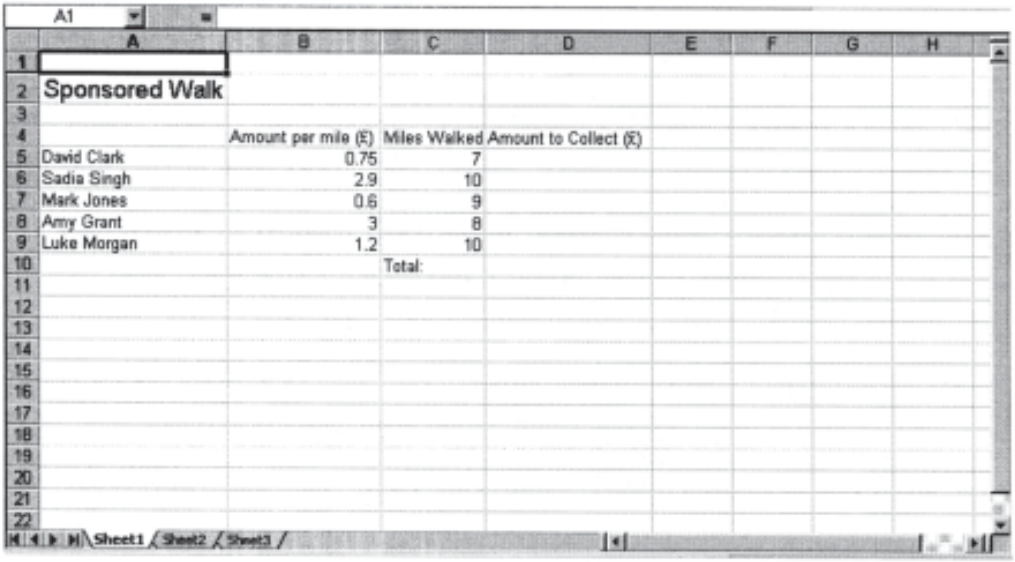
10. **If** the top of the words *Sponsored Walk* is **not** visible, row **2** will have to be made higher.

    - move the pointer to the bottom border of the heading for row **2**.
    - position the mouse so that the cursor changes to a double arrow



11. Click and hold down the mouse button and drag the border down until the row displays the top of the words.

12. Enter the rest of the words and numbers shown into the correct cells.



13. Save your document as CAEx10.

14. Print a copy for your records.

Test yourself on  **calculating information**

Exercise 11

A formula can be entered into a cell. It can then be copied into the cells below. This is called **Fill Down**.

Your tutor will demonstrate the following:

- how to fill down a formula

1. Open Exercise CAEx10. This is what your spreadsheet looked like at the end of Exercise 10.

2. Check that the date and school name are in the header.

3. Check that your name and class are in the footer.

4. A formula will now be entered that will calculate the *Amount to collect* (£) for each person.

5. Click on cell **D5**.

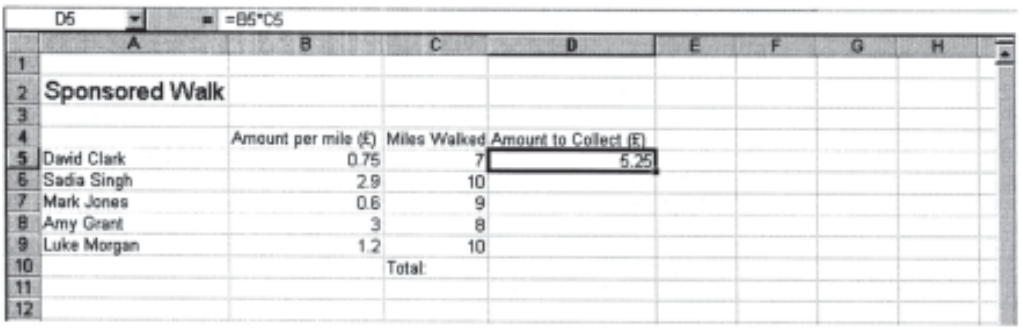
6. Enter an equal sign = but do **not** press **Return**. The equal sign tells the spreadsheet to calculate an answer.

7. Click on cell **B5,** which contains 0.75, David Clark's *Amount per mile* (£).

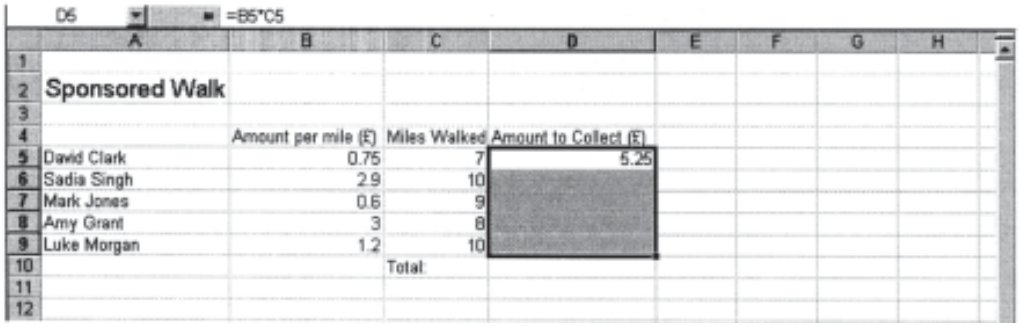
8. Type an asterisk * , the symbol for multiply.

9. Click on cell **C5**. The formula you have typed should be **= B5*C5**.

10. Press Return to make the answer of 5.25 appear in cell **D5**.



11. To fill the *Amount to collect* (£) into the cells for the other people, drag from the centre of cell **D5** down to the centre of cell **D9**.



12. Choose the command to Fill Down.
Check that Cell D9 contains the formula =B9*C9 and the value 12 has been calculated.

13. The *Total* to be collected from all the walkers will now be calculated.

14. Click on cell **D10**.

15. Type in an equal sign =. This tells the spreadsheet to calculate an answer.

16. Type the word **SUM**, followed by an opening curved bracket **(** .

17. Drag from the centre of cell **D5** down to the centre of cell **D9**.

18. Type a closing curved bracket **)**. The formula should look like this:

    =SUM (D5:D9)

    There is also a special command that your tutor can demonstrate to you to calculate a sum from a list of numbers.

19. Press Return to make the answer of **75.65** appear in cell **D10**.

20. Save your document as CAEx11.

21. Print a copy for your records.

Test yourself on  formatting information (1)

Exercise 12

Your tutor will demonstrate the following:

- changing the attribute of a cell to **2 decimal places**.
- changing the justification of the cell to **left, right or centre**.

1. Open Exercise CAEx11. This is what your spreadsheet looked like at the end of Exercise 11.

2. Check that the date and school name are in the header.

3. Check that your name and class are in the footer.

4. Drag from the centre of cell **B5** to the centre of cell **B9**. This selects cells **B5 to B9**.

5. Format the numbers to 2 decimal places.

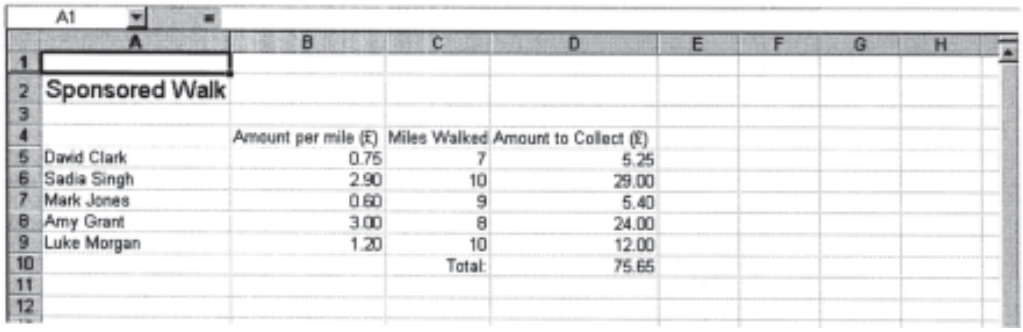
6. Select cells **D5 to D10.**

7. Format the numbers to 2 decimal places.

8. Click on cell **C10**.

9. Align the word *Total:* to the right of its cell.

10.



	A	B	C	D	E	F	G	H
1								
2	Sponsored Walk							
3								
4		Amount per mile (£)	Miles Walked	Amount to Collect (£)				
5	David Clark	0.75	7	5.25				
6	Sadia Singh	2.90	10	29.00				
7	Mark Jones	0.60	9	5.40				
8	Amy Grant	3.00	8	24.00				
9	Luke Morgan	1.20	10	12.00				
10			Total:	75.65				
11								
12								

11. Save your document as CAEx12.

12. Print a copy for your records.

Test yourself on  formatting information (2)

Exercise 13

Your tutor will demonstrate the following:

- changing the attribute of a cell to **currency**
- removing the **gridlines**
- removing the column **headings and row headings**

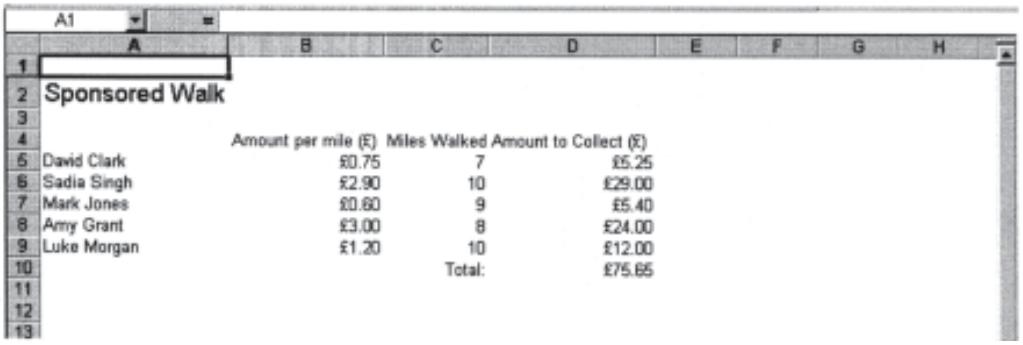
1. Open Exercise CAEx12. This is what your spreadsheet looked like at the end of Exercise 12.

2. Select cells **B5** to **B9**.

3. Format the contents of the cells to currency, with 2 decimal places.

4. Follow similar steps to format cells **D5** to **D10** to currency, with 2 decimal places.

5. Remove the gridlines. Your spreadsheet should now look like this:

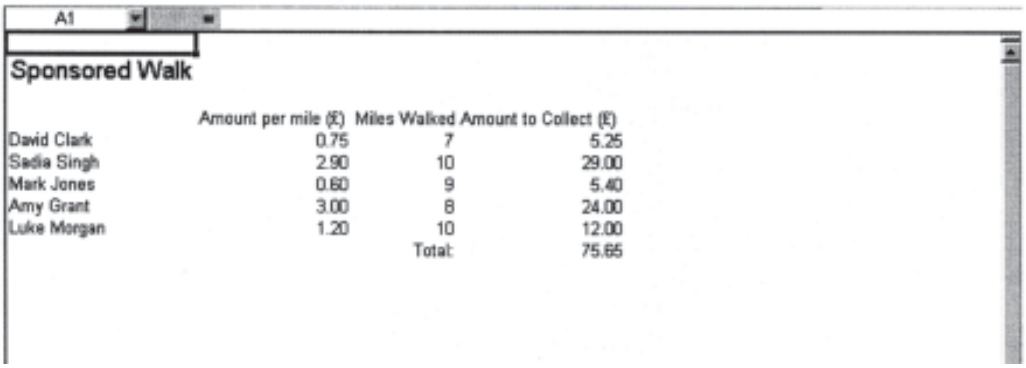


	A	B	C	D	E	F	G	H
1								
2	Sponsored Walk							
3								
4		Amount per mile (£)	Miles Walked	Amount to Collect (£)				
5	David Clark	£0.75	7	£5.25				
6	Sadia Singh	£2.90	10	£29.00				
7	Mark Jones	£0.60	9	£5.40				
8	Amy Grant	£3.00	8	£24.00				
9	Luke Morgan	£1.20	10	£12.00				
10			Total:	£75.65				
11								
12								
13								

6. Save your document as CAEx13A.

7. Print a copy for your records.

8. Remove the column headings and row headings. Your spreadsheet should now look like this:



A1

Sponsored Walk

	Amount per mile (£)	Miles Walked	Amount to Collect (£)
David Clark	0.75	7	5.25
Sadia Singh	2.90	10	29.00
Mark Jones	0.60	9	5.40
Amy Grant	3.00	8	24.00
Luke Morgan	1.20	10	12.00
		Total:	75.65

9. Save your document as CAEx13B.

10. Print a copy for your records.

Test yourself on  **editing a spreadsheet**

Exercise 14

Your tutor will demonstrate the following:

- how to use the average function
- sorting on 1 column
- create a simple chart/graph in your spreadsheet

1. Open Exercise CAEx13A.

2. *Mark Jones* left school before the sponsored walk took place, so has to be deleted from the spreadsheet.

Click on the heading for row 7 → The whole row should be selected

		Amount per mile (£)	Miles Walked	Amount to Collect (£)
4				
5	David Clark	£0.75	7	£5.25
6	Sadia Singh	£2.90	10	£29.00
7	Mark Jones	£0.60	9	£5.40
8	Amy Grant	£3.00	8	£24.00
9	Luke Morgan	£1.20	10	£12.00

3. Delete that row.

4. Sadia found another sponsor for 20p a mile just before the walk began, so change *Sadia's Amount per mile* to 3.10. Sadia's *Amount to collect* in cell **D6** has now changed.

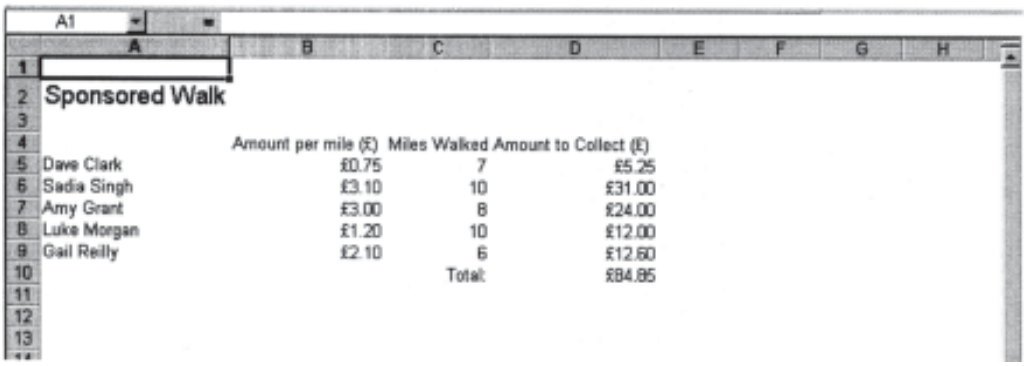
5. (a) How much should Sadia collect now?
   (b) What is the new Total to collect?

6. *David Clark* should have been entered as *Dave Clark.* Change the contents of the cell.

7. A pupil has been missed off the spreadsheet, so insert a new row after Luke Morgan and enter the following information:

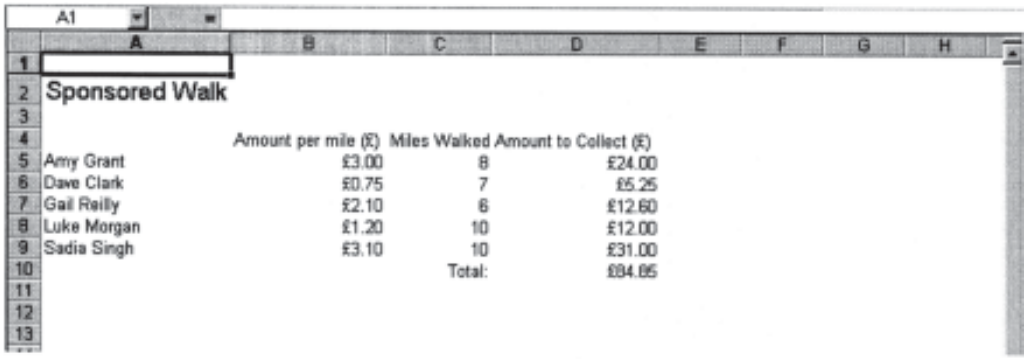
   Gail Reilly, amount per mile (£) = 2.10, miles walked = 6.

8. Make sure the correct formula is entered in cell D9.



	A	B	C	D
1				
2	Sponsored Walk			
3				
4		Amount per mile (£)	Miles Walked	Amount to Collect (£)
5	Dave Clark	£0.75	7	£5.25
6	Sadia Singh	£3.10	10	£31.00
7	Amy Grant	£3.00	8	£24.00
8	Luke Morgan	£1.20	10	£12.00
9	Gail Reilly	£2.10	6	£12.60
10			Total:	£84.85

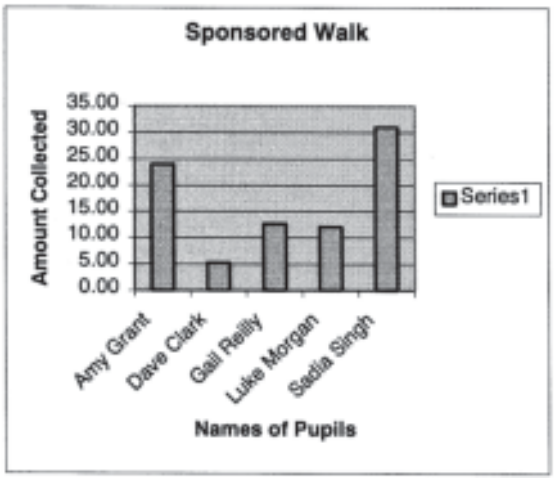
9. Sort the name column from A–Z on the sponsored walk spreadsheet.



	A	B	C	D
1				
2	Sponsored Walk			
3				
4		Amount per mile (£)	Miles Walked	Amount to Collect (£)
5	Amy Grant	£3.00	8	£24.00
6	Dave Clark	£0.75	7	£5.25
7	Gail Reilly	£2.10	6	£12.60
8	Luke Morgan	£1.20	10	£12.00
9	Sadia Singh	£3.10	10	£31.00
10			Total:	£84.85

10. Create a bar graph to show the name and total amount to collect.

Hint – you may have to hide columns B & C to create the chart.



11. Save your document as CAEx14.

12. Print a copy for your records.

Test yourself on  calculating information (2)

Exercise 15

Your tutor will demonstrate:

- the average function

1. Open Exercise 15. This spreadsheet contains number and text.

D17

	A	B	C	D	E	F	G
1		Test 1	Test 2	Test 3	Test 4	Total	Average Mark
2	Callum	8	9	8	7		
3	Andrew	5	6	8	4		
4	Neil	8	5	9	4		
5	Dean	9	8	2	8		
6	Alistair	3	9	8	7		
7							
8							
9	Average						
10							

2. In Exercise 13 you worked out the total.

3. Click on cell F2.

4. Enter the formula to work out Callum's total mark.

5. Fill down the formula in column F.

6. Click on cell G2.

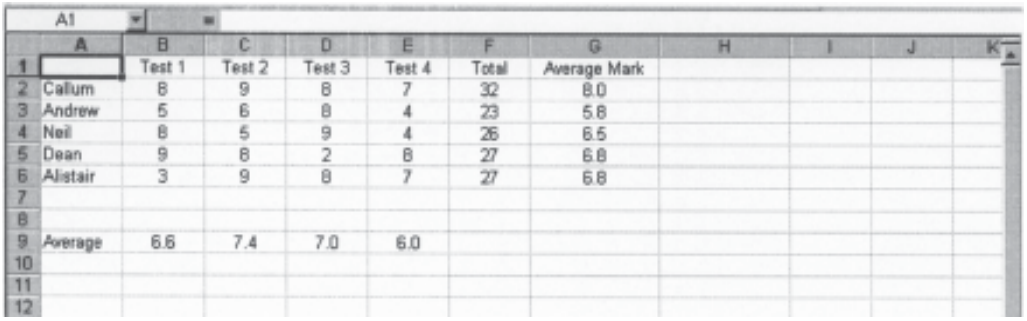
7. Use the AVERAGE function to find Callum's average mark for the 4 tests.

8. The formula entered in cell G2 is _____

9. Fill down the formula in column G.

10. Click on cell B9 and enter a formula to work out the average mark for test 1.

11. Fill right across the row.



	A	B	C	D	E	F	G	H	I	J	K
1		Test 1	Test 2	Test 3	Test 4	Total	Average Mark				
2	Callum	8	9	8	7	32	8.0				
3	Andrew	5	6	8	4	23	5.8				
4	Neil	8	5	9	4	26	6.5				
5	Dean	9	8	2	8	27	6.8				
6	Alistair	3	9	8	7	27	6.8				
7											
8											
9	Average	6.6	7.4	7.0	6.0						
10											
11											
12											

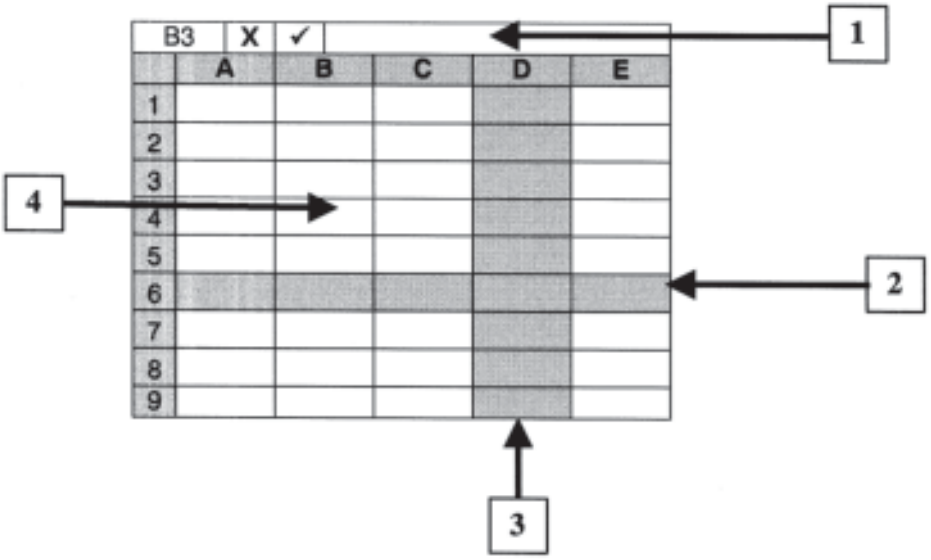
12. Save your document as CAEx15.

13. Print a copy for your records.

Test yourself on  **spreadsheets – revision**

Exercise 16

1. Write down the names of the areas numbered 1 to 4.



2. Match the data items on the left to the data type on the right. The first one is done for you.

(a) Total	•	• number
(b) =C7-C6	•	
(c) 75	•	• text
(d) =AVERAGE (D6:D9)	•	
		• formula
(e) 45.95	•	

3. Four changes have been made to this spreadsheet. These are shown on the spreadsheet on the right.

	A	B	C
1	Income		
2	Wages	140.75	
3			
4			

	A	B	C
1	**Income**		
2	**Wages**	£140.75	
3			
4			

(a) What change has been made to cell **A1?**

(b) What change has been made to cell **A2**?

(c) What change has been made to cell **B2**?

(d) Write down the other change made to the spreadsheet.

4. Aidan wanted to count the time he spent watching different types of television programmes. He created this spreadsheet to help him:

A1

	A	B	C	D	E	F	G	H	I
1		**Hours spent watching television**							
2									
3	**Type of Program**	**Mon**	**Tue**	**Wed**	**Thur**	**Fri**	**Sat**	**Sun**	
4	News	0.5	0.5	0.5	0.5	0.5	0	1	
5	Sport	0	0	1	0	0	3	2	
6	Drama	1	0	0	1	1	0	1.5	
7	Soap	1	1	1	1	1	0	0	
8	Comedy	0.5	1	0.5	0.5	0.5	1.5	0.5	
9	Music	0	0	0	0.5	0.5	1	0	
10	Educational	0	1	0	0	0	0	1.5	
11	Daily Total	3	3.5	3	3.5	3.5	5.5	6.5	
12									
13	**Weekly Total**	**28.5**							
14	**Weekly Average**	**4.1**							
15									

(a) Aidan used a formula in cell **B11**. Write down the formula he used.

(b) He did not have to type a formula into the cells for the other daily totals. Instead, he dragged from cell **B11** to cell **H11**. What command did he use next?

(c) Aidan used another formula in cell **B13**. Write down the formula he used.

(d) Aidan worked out his average time by using a formula in cell B14. Write down the formula he used.

SECTION 4

Database software

Database software lets you organise information. This is particularly useful if there is a large amount of information, such as an electronic telephone directory or information on a police computer.

Fields

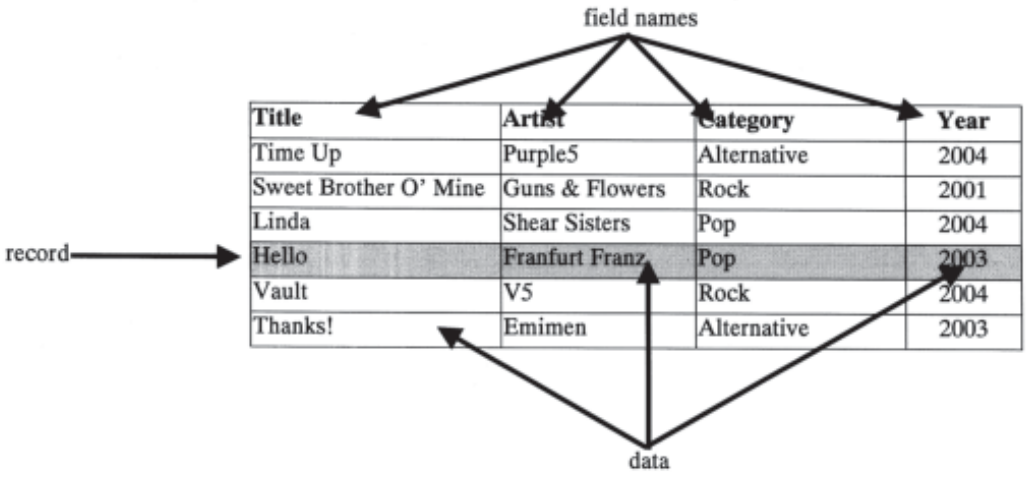
Information about one item or person is organised into fields. For example, the **field names** for a music collection could be:

- *Title*
- *Artist*
- *Category*
- *Year*

A field can hold several different **data types**.

Records

All the information about one item or person is called a *record.* Here are some records in the music collection.



Title	Artist	Category	Year
Time Up	Purple5	Alternative	2004
Sweet Brother O' Mine	Guns & Flowers	Rock	2001
Linda	Shear Sisters	Pop	2004
Hello	Franfurt Franz	Pop	2003
Vault	V5	Rock	2004
Thanks!	Emimen	Alternative	2003

File

This is a collection of records that gives a complete set of information about a certain topic, e.g. a school file would contain all the information about all the pupils who attend the school.

In a database we can:

- sort the information
- search for information.

Sorting the information

This database is sorted into alphabetical order by the **Year** field:

Title	Artist	Category	Year
Vault	V5	Rock	2004
Time Up	Purple5	Alternative	2004
Linda	Shear Sisters	Pop	2004
Thanks!	Emimen	Alternative	2003
Hello	Franfurt Franz	Pop	2003
Sweet Brother O' Mine	Guns & Flowers	Rock	2001

Remember
In this database we started with 6 records. After we sorted the database we still have 6 records.

Searching for information

This is a search for *Rock* in the **Category** field:

Title	Artist	Category	Year
Sweet Brother O' Mine	Guns & Flowers	Rock	2001
Vault	V5	Rock	2004

Remember
In this database we started with 6 records. After we searched the database for the category 'Rock' we have only 2 records.

Output of information

When data is stored you can view or print your data in a variety of ways.

- one record at a time known as form layout:

Title	Artist	Category	Year
Time Up	Purple5	Alternative	2004

OR

Title	Time Up
Artist	Purple5
Category	Alternative
Year	2004

- in a list like a table:

Title	Artist	Category	Year
Time Up	Purple5	Alternative	2004
Sweet Brother O' Mine	Guns & Flowers	Rock	2001
Linda	Shear Sisters	Pop	2004
Hello	Franfurt Franz	Pop	2003
Vault	V5	Rock	2004
Thanks!	Emimen	Alternative	2003

Test yourself on  **sorting a database**

Exercise 17

Your tutor will demonstrate:

- sorting on a single field

1. Open Exercise 17.

2. Sort by **Year** field in ascending order. Find the oldest music track in the collection.

3. (a) What is the year of the oldest track?

   (b) What is the title of the oldest track?

4. Sort by **Title** field in descending order.

5. Which title appears at the top of the table?

6. Close the application, but do not save changes.

Test yourself on  **sorting a database**

Exercise 18

Your tutor will demonstrate:

- sorting on multiple fields.

1. Open Exercise 18.

2. Sort by the **Artist** field and the **Category** field in descending order. Which artist and title are at the top of the table?

3. Sort by the **Category** field and **Year** field in descending order. Which artist and title are at the top of the table now?

4. Close the application, but do not save changes.

Test yourself on  **searching a database**

Exercise 19

Your tutor will demonstrate:

- searching a database on one field
- searching on multiple fields.

1. Open Exercise 19.

2. Find the record with the **Title** *Dreams*. Write down the name of the artist _____

3. Find the records with the **Category** *Jazz*. How many records are there? _____

4. This is a search on multiple fields. How many records are in the **Category** *Pop* _____ **and** were recorded in *1998*? _____

5. Close the application, but do not save changes.

Test yourself on

editing a database

Exercise 20

Your tutor will demonstrate:

- adding a new record
- amending an existing record
- inserting a new field to an existing database
- deleting a record.

1. Open Exercise 20. The is the same database as before.

2. Add the following record to the database:

Title	I Don't Like Mondays
Artist	Your Name
Category	Pop
Year	2005

3. Search for the record, which has your name as the artist. This should display only the record containing your name.

4. Amending a record:

   The song "**Turn Back the Time**" by the "**Water**" was re-released in "2004". Change the field = Year from 1999 to 2004.

5. Inserting a new field:

   Insert a new field called "Highest Chart Position".

   The data type of this field "Highest Chart Position" will be "**Number**".

   Enter what you think would have been each song's highest chart position. Give them all a number between 1 and 40.

6. Deleting a record:

   Search for the following record:

Title	Mini or Maxi
Artist	Fashion Statement
Category	Pop
Year	1968

   Delete the record.

7. Save your document as CAEx20.

8. Print a copy for your records.

Test yourself on

creating a database

Exercise 21

Your tutor will demonstrate:

- how to create a new database

1. Open your database software on the computer.

2. Create a new file called "**Spending**".

3 Define the following field names and their data types:

Forename	Text
Surname	Text
Spending(£)	Number

4. Enter the following data:

Forename	Surname	Spending (£)
Andrew	Johnstone	250
Dean	More	245
Callum	Park	160
Alistair	Swanson	127
Neil	Clark	85

5. Save your document as CAEx21.

6. Print a copy for your records.

Test yourself on  **creating a database**

Exercise 22

1. You are going to gather information and then create your own database.

   e.g.
   Pupils in your class (Forename, Surname, Male or Female, Primary School, Date of Birth, etc.)
   Football Teams (Team Name, Stadium Name, Capacity, Nickname, Favourite Players, etc.)
   Pop Groups (Band Name, Number of Members, etc.)

2. It may be easier to write the details of your database down on paper first.

3. Show your tutor your design and the data.

4. Open your database software on the computer.

5. Your database must have at least 4 fields (you can have more).

6. The field types used should be a mixture of text, number and date.

7. The number of records should be at least 20.

8. Save your document as CAEx22.

9. Print a copy for your records.

Test yourself

Database – Revision

Exercise 23

1. A doctor uses a computer database to store information about her patients. Here is an example of a record from the database.

First name:	Caitlin
Surname:	Park
Age:	14
Street:	12 Tinkers Lane
Town:	Motherwell
Appointment:	9 August 2005

From the record above give an example of a field which contains:

(a) text
(b) number
(c) date

2. Here is a part of a database.

Forename	Surname	Weekly Income (£)
Andrew	Johnstone	350
Dean	More	345
Callum	Park	260
Alistair	Swanson	227
Neil	Clark	185

(a) How many fields are shown in the database?
(b) How many records are shown in the database?
(c) The records in the database have been sorted. Which field has been used to sort the records?

3.

First name	Surname	Date of birth	Street	Town	Appointment
Jack	Reid	26 March 1985	12 Tinkers Lane	Motherwell	9 August 2005
Eve	Cart1	4 April 1984	2 Clay Street	Hamilton	12 September 2005
Reece	O'Neil	29 January 1985	3 Peel Place	Motherwell	25 May 2005
William	Bell	12 July 1986	1 Bay Court	Hamilton	17 July 2005
Colin	Taylor	7 August 1987	1098 New Street	Motherwell	29 June 2004
Nicholas	Flynn	25 December 1990	635 Old Place	Motherwell	19 May 2004
Liam	Bell	13 October 1996	21 Head Street	Hamilton	9 August 2005
Matthew	Thomson	11 October 1992	3 Cadzow Street	Motherwell	12 August 2005

(a) The doctor wants to find all the patients who have an appointment on 9 August 2005. Use each of the words in the list below to complete the sentences.

records *search* *contain* *field*

The doctor will _____ the file for the _____ which _____ 9 August 2005 in the Appointment _____

(b) The doctor usually keeps the file in the order of patients' surnames.

Use some of the words in the list below to describe how she would put the file into this order.

sort *surname* *first name* *record* *search*

The doctor will _____ the file on the _____ field.

SECTION 5

Graphics software (drawing)

Graphics software lets you create pictures and shapes. You can also:

- Make changes to a picture
- Move, copy and resize part of a picture

Here are the most common tools in a drawing graphics package.

Drawing tools


straight line


rectangle


ellipse


freehand

text

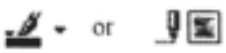
or

library of standard shapes

Editing tools


select objects


width of line



line colour

fill colour

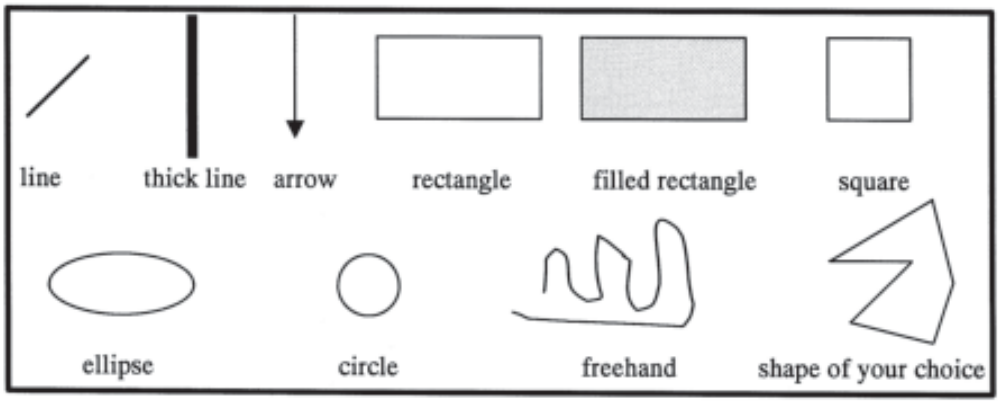
Test yourself on   **drawing**

Exercise 24

Use the drawing application package on-line tutorial or on-line help to find out how to do the following:

1. Create a line.
2. Change the line width.
3. Create an arrow.
4. Create a rectangle.
5. Change the fill colour of a shape.
6. Create an exact square.
7. Create an ellipse.
8. Create an exact circle.
9. Create a freehand shape.
10. Open a new page.

11. Create the objects named below. Your page should look similar to this:



12. Save your document as CAEx24.

13. Print a copy for your records.

Test yourself on

manipulating objects

Exercise 25

Your tutor will demonstrate:

- how to flip an object vertically and horizontally
- how to rotate an object
- how to scale an object.

1. Open a new page.

2. Draw a triangle then select it.

3. Choose **Edit** then **Copy** to copy the triangle.

4. Choose **Edit** then **Paste** to create another triangle.
   Drag it above the words *Triangle flipped vertically.*

5. Flip the triangle vertically.

6. Paste another triangle. Drag it above the words *Triangle flipped horizontally.*

7. Flip the triangle horizontally.

8. Paste another triangle. Drag it above the words *Triangle rotated 90 °.*

9. Rotate the triangle 90°.

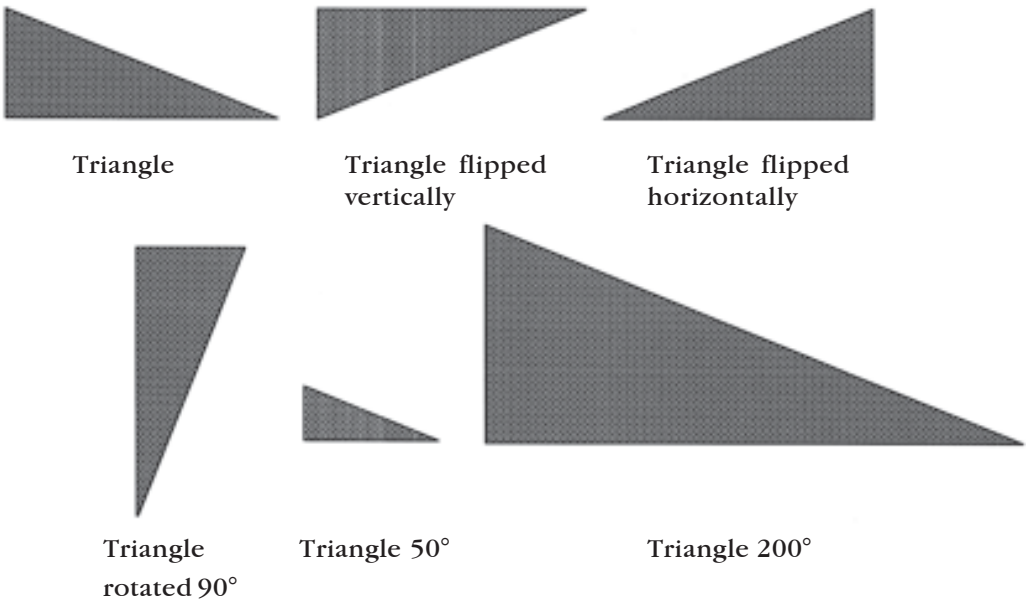
10. Paste another triangle. Drag it above the words *Triangle 50%.*

11. Resize/scale the triangle to 50%

12. Paste another triangle. Drag it above the words *Triangle 200%.*

13. Resize/scale the triangle to 200%.

    Your page should look similar to this:



14. Save your document as CAEx25.

15. Print a copy for your records.

Test yourself on  building a graphic (1)

Exercise 26

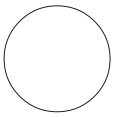
Your tutor will demonstrate:

- how to group objects

You will create this traffic sign, which means *no entry for vehicles.*

1. Open a new page.

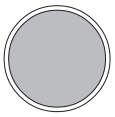
2. Draw the outer circle using the **ellipse** tool.
   Hold down the **Shift** key while dragging to make it circular.



3. Change the line colour of the circle to red.

4. Make sure its fill colour is white.

5. Draw another circle inside the first.
   Adjust the size and position to look like this.



6. Change the line colour of this circle to red.

7. Change the fill colour of this circle to red.

8. Draw a rectangle inside the circles.
   Adjust the size and position to look like this.

9. Make sure the line colour of the rectangle is white.

10. Make sure the fill colour of the rectangle is white.

11. Now group the 2 circles and the rectangle together.

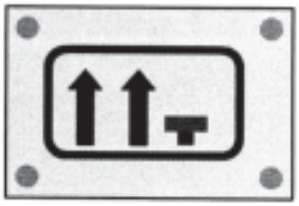
12. Save your document as CAEx26.

13. Print a copy for your records.

Test yourself on

building a graphic (2)

Exercise 27

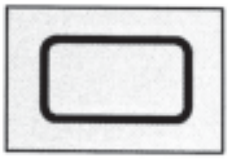


You will create this traffic sign which means *Lane closed by a works vehicle.*

1. Open a new page.

2. Draw the outer rectangle.

3. Change the fill to yellow.



4. Draw a rounded rectangle – adjust the line width.

5. Make sure the line colour is black.

6. Change the fill to yellow.

7. Draw a small circle in the top left-hand corner to look like:
   Change the fill and line colour to orange.

8. Select the small orange circle. Choose copy and paste. Paste the other 3 circles into the other corners.

9. Draw an arrow. Adjust the size and line width to look like this.

10. Select the arrow and paste. Move the second arrow to the centre.

11. Draw a black line to the right and a horizontal red line to finish the drawing.

12. Group all the objects together.

13. Save your document as CAEx27.

14. Print a copy for your records.

Test yourself on

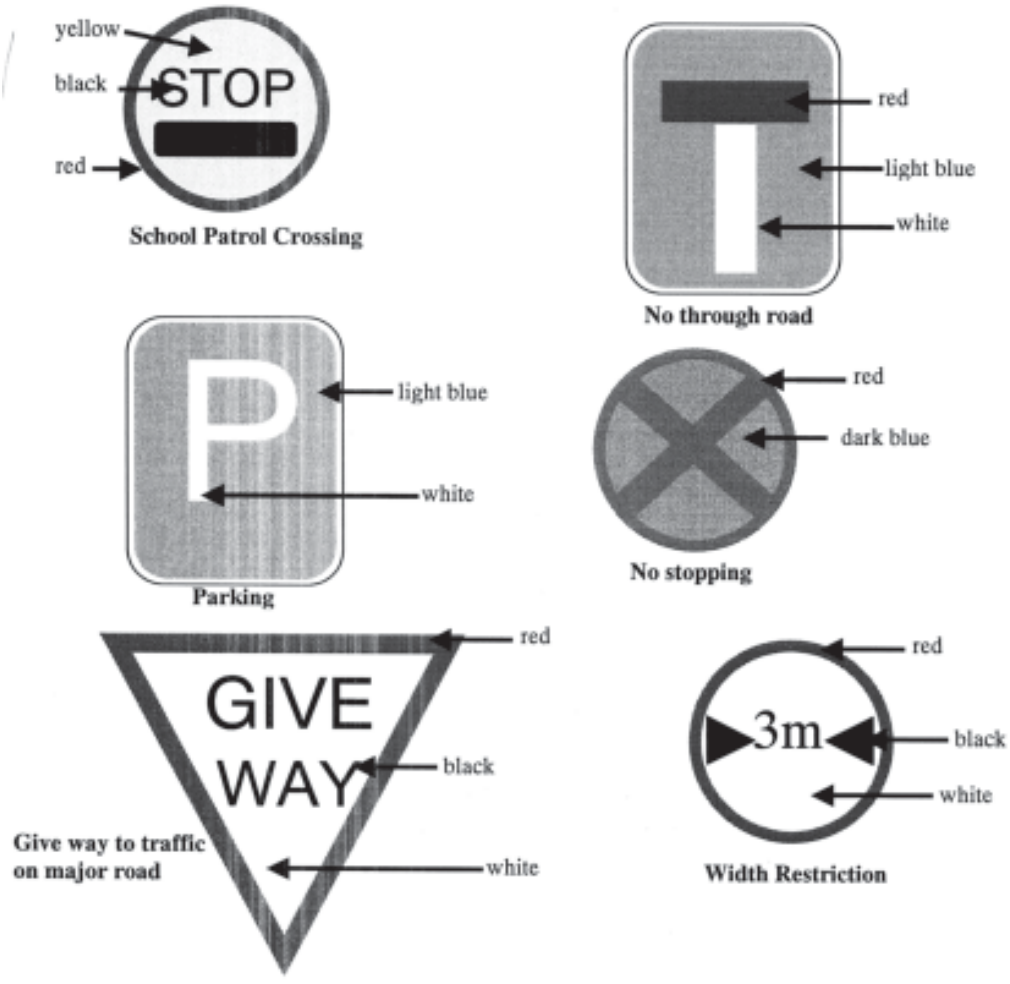
building a graphic – extension

Exercise 28

You will create the following traffic signs.

1. Open a new page.

2. Create these 6 traffic signs.



3. Save your document as CAEx28.

4. Print a copy for your records.

Test yourself on

graphics (drawing) – revision

Exercise 29

1. Write down the names of these tools:

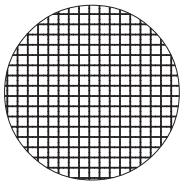
   (a) 

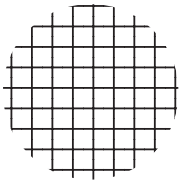
   (b) 

   (c) 

2. What is the difference between these rectangles?

3. What is the difference between these circles?





4. Has this shape been flipped vertically or horizontally?

5. What change has been made to the rectangle?

SECTION 6

Graphics software (painting)

Graphics software lets you create pictures and shapes. You can also:

- Make changes to a picture
- Move, copy and resize part of a picture.

Here are the most common tools in a drawing graphics package.

Painting tools

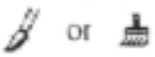

straight line


rectangle


ellipse


text box


pencil – thin lines



brush – thick lines

Editing tools

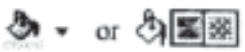

select part of a picture


paint pot (fill)


eraser


width of line

line colour



fill colour

Test yourself

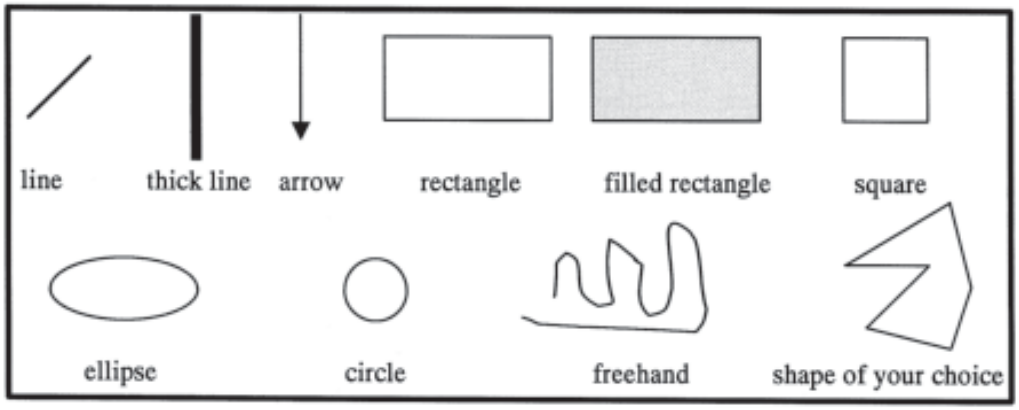
Painting

Exercise 30

Use the painting application package to find out how to do the following. (It may be slightly different from the drawing package you have just used.)

1. Create a line
2. Change the line width
3. Create an arrow
4. Create a rectangle
5. Change the fill colour of a shape
6. Create an exact square
7. Create an ellipse
8. Create an exact circle
9. Create a freehand shape
10. Open a new page
11. Enter your name and class at the bottom of the page.

12. Create the objects named below. Your page should look similar to this:



13. Save your document as CAEx30.

14. Print a copy for your records.

Test yourself on  **painting**

Exercise 31

Use the painting application package to find out how to do the following. (It may be slightly different from the drawing package you have just used.)

1. Open a new page.

2. Use the line tool to draw a line about 1 cm in length.

3. You are going to change the colour of this line by selecting each individual pixel that makes up the line. Zoom in so that you can see the line clearly.

4. Select the pencil tool and colour each individual pixel a different colour so that the line appears multi-coloured.

5. Change the background colour to a suitable colour of your choice.

6. Save your document as CAEx31.

Test yourself on

uses of application packages

Exercise 32

Word processing

1. One of the uses of word processing is to type a report on a meeting. Can you suggest 2 other uses for word-processing software?

   1. _____

   2. _____

2. List 3 advantages word processors have over a manual system (i.e. using a typewriter).

   1. _____

   2. _____

   3. _____

3. List 3 disadvantages of word processors over a manual system. (Or, list 3 advantages a manual system has over a word processor.)

   1. _____

   2. _____

   3. _____

Ask your tutor to check your answers.

Spreadsheets

4. One use for spreadsheets is to calculate the money from a sponsored walk. Can you suggest 2 other uses for spreadsheet software?

   1. _____

   2. _____

5. List 3 advantages spreadsheets have over a manual system (i.e. using a pencil, paper and calculator).

   1. _____

   2. _____

   3. _____

6. List 3 disadvantages of a spreadsheet over a manual system. (Or, list 3 advantages a manual system has over using a spreadsheet.)

   1. _____

   2. _____

   3. _____

Ask your tutor to check your answers.

Databases

7. One use for databases is to organise your own music collection on the computer. Can you suggest 2 other uses for database software?

   1. _____

   2. _____

8. List 3 advantages databases have over a manual system (i.e. using filing cabinets and paper copies).

   1. _____

   2. _____

   3. _____

9. List 3 disadvantages of using a database over a manual system. (Or, list 3 advantages a manual system has over a database.)

   1. _____

   2. _____

   3. _____

Ask your tutor to check your answers.

Graphics

10. One use for graphics software is to create pictures of traffic signs. Can you suggest 2 other uses for graphics software (either drawing or painting)?

    1. _____

    2. _____

11. List 3 advantages using a graphics package has over a manual system (i.e. drawing the diagram).

    1. _____

    2. _____

    3. _____

12. List 3 disadvantages of using a graphics package over drawing by hand.

    1. _____

    2. _____

    3. _____

Ask your tutor to check your answers.

SOLUTIONS

Solutions

Exercise 1

1. (a) word processing
   (b) database
   (c) graphics
   (d) spreadsheet

2.

Application package	Uses
Visual Basic	programming
2D Design	computer-aided design
ClarisWorks	WP, SS, DB, etc.

3. (a) Mapsoft Ltd
   (b) Map Britain
   (c) CD-ROM
   (d) PC and Apple Mac
   (e) Installation Guide
   (f) User Guide
   (g) Application Software

Exercise 2

1.

Device	Input	Output	Backing storage
mouse	✓		
inkjet printer		✓	
touchpad	✓		
visual display unit	✓		
USB flash drive			✓
CD-ROM			✓
graphics tablet	✓		
laser printer		✓	
keyboard	✓		
digital camera	✓		
CD-RW			✓
scanner	✓		
floppy disk			✓

2. keyboard mouse scanner

3. The top line of the keys of the letters spell the word "QWERTY"

4. printer

5. touchpad trackpad

6. (i) bit – a binary digit, either a 1 or 0.
   (ii) byte – a group of 8 bits
   (iii) terabyte – 1024 gigabytes
   (1024 × 1024 × 1024 × 1024 bytes)

7. Random Access Memory

8. Processor

9. Operating System

Exercise 3

This text is 10 point, Plain Text.
~~This text is 14 point, Strikethrough~~. Should be blue in colour
This text is 18 point, Bold.
This text is 24 point, Italic.
This text is 28 point, Underline.
This text is in a different font.

Exercise 4

The 4 paragraphs should be shown as follows:

Paragraph 1 – Left Aligned
Paragraph 2 – Centre Aligned
Paragraph 3 – Right Aligned
Paragraph 4 – Justify

Exercise 5

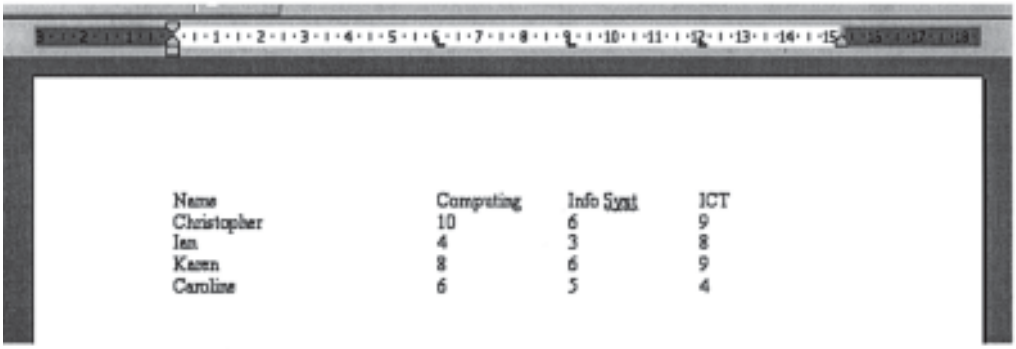
Margins on document should be as follows:

top 10 cm bottom 3 cm left 5 cm right 2 cm

These should be numbered bullet points and not character bullet point.

1. You would like to punch or bind one edge of the paper.
2. You are printing on pre-printed notepaper.
3. Your page layout looks better if the margins are changed.
4. The printer cannot print close to the edge of the paper.

Exercise 6



Name	Computing	Info Syst	ICT
Christopher	10	6	9
Ian	4	3	8
Karen	8	6	9
Caroline	6	5	4

Exercise 7

Wrong word	Correct word
top	to
son	sun

Exercise 8

Words in bold are the corrected search and replace words now spelt correctly.

The **main memory** or **main** store of a computer is used to store programs and data. A computer must have a **memory**. The processor cannot store a whole program at one time so the computer needs its **memory** to store the parts of a program and data that it's not using at any particular time.

The **main memory** of a computer system is made up of a set of **memory** chips. There a two sets of **memory** chips:

RAM – Random Access **memory**
RAM is used to store programs and data temporarily because anything stored in RAM is lost when the computer is switched off.

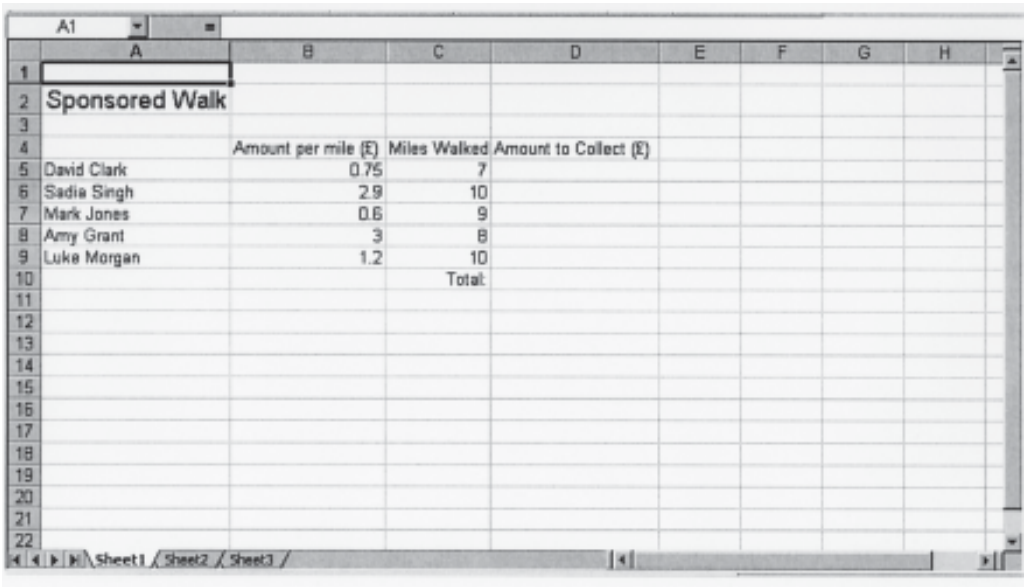
ROM – Read Only **memory**
ROM can be used to store programs and data all the time. The contents of ROM are not lost when the computer is switched off.

Exercise 9

1. footer
2. highlight the word, sentence or paragraph
3. italics
4. size increased
5. Check WP document
6. Number of fonts computer has – pupil needs to count them
7. Full justification of text
8. Diagram 1
9. The spell check does not pick up words that are spelt correctly but in the wrong context. (Often too, it fails to correct proper nouns.)
10. Clip art makes for a more interesting document, easier on the eye, etc.

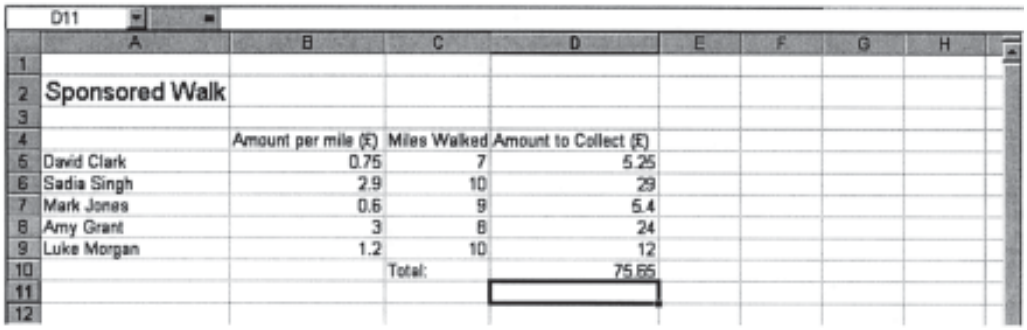
Exercise 10

Spreadsheets



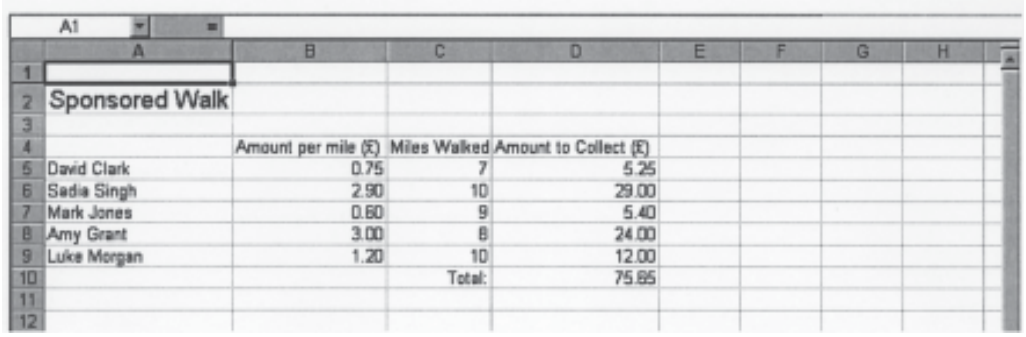
	A	B	C	D
1				
2	Sponsored Walk			
3				
4		Amount per mile (£)	Miles Walked	Amount to Collect (£)
5	David Clark	0.75	7	
6	Sadia Singh	2.9	10	
7	Mark Jones	0.6	9	
8	Amy Grant	3	8	
9	Luke Morgan	1.2	10	
10			Total:	

Exercise 11



	A	B	C	D
1				
2	Sponsored Walk			
3				
4		Amount per mile (£)	Miles Walked	Amount to Collect (£)
5	David Clark	0.75	7	5.25
6	Sadia Singh	2.9	10	29
7	Mark Jones	0.6	9	5.4
8	Amy Grant	3	8	24
9	Luke Morgan	1.2	10	12
10			Total:	75.65
11				
12				

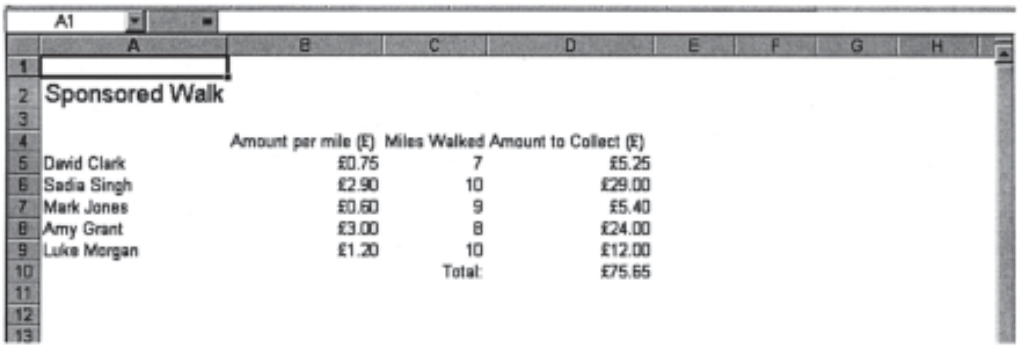
Exercise 12



	A	B	C	D
1				
2	Sponsored Walk			
3				
4		Amount per mile (£)	Miles Walked	Amount to Collect (£)
5	David Clark	0.75	7	5.25
6	Sadia Singh	2.90	10	29.00
7	Mark Jones	0.60	9	5.40
8	Amy Grant	3.00	8	24.00
9	Luke Morgan	1.20	10	12.00
10			Total:	75.65
11				
12				

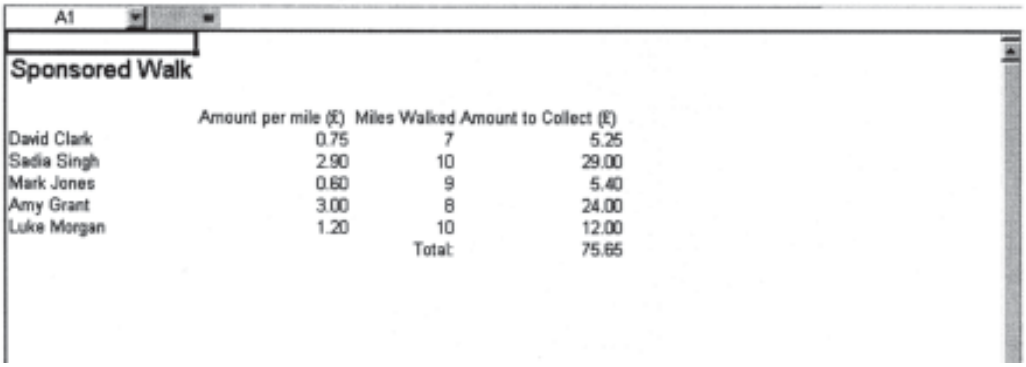
Exercise 13

5.



	A	B	C	D
1				
2	Sponsored Walk			
3				
4		Amount per mile (£)	Miles Walked	Amount to Collect (£)
5	David Clark	£0.75	7	£5.25
6	Sadia Singh	£2.90	10	£29.00
7	Mark Jones	£0.60	9	£5.40
8	Amy Grant	£3.00	8	£24.00
9	Luke Morgan	£1.20	10	£12.00
10			Total:	£75.65
11				
12				
13				

8.



Sponsored Walk

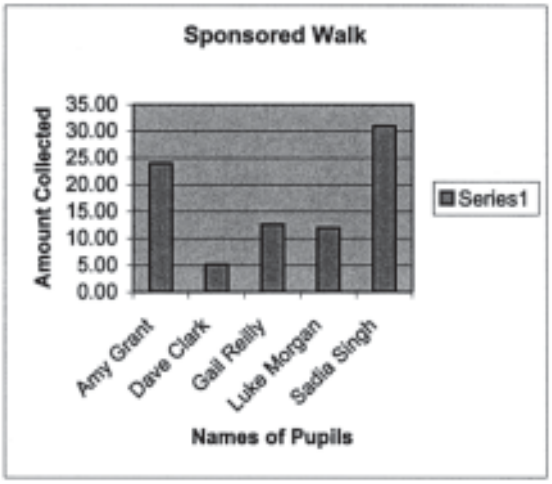
	Amount per mile (£)	Miles Walked	Amount to Collect (£)
David Clark	0.75	7	5.25
Sadia Singh	2.90	10	29.00
Mark Jones	0.60	9	5.40
Amy Grant	3.00	8	24.00
Luke Morgan	1.20	10	12.00
		Total:	75.65

Exercise 14

9.

	A	B	C	D
1				
2	Sponsored Walk			
3				
4		Amount per mile (£)	Miles Walked	Amount to collect (£)
5	Amy Grant	£3.00	8	24.00
6	Dave Clark	£0.75	7	5.25
7	Gail Reilly	£2.10	6	12.60
8	Luke Morgan	£1.20	10	12.00
9	Sadia Singh	£3.10	10	31.00
10			Total:	84.85
11				
12				

10.



Exercise 15

8. =average(B2:E2) or =avg(B2:E2)

11.

	A	B	C	D	E	F	G
1		Test 1	Test 2	Test 3	Test 4	Total	Average Mark
2	Callum	8	9	8	7	32	8.0
3	Andrew	5	6	8	4	23	5.8
4	Neil	8	5	9	4	26	6.5
5	Dean	9	8	2	8	27	6.8
6	Alistair	3	9	8	7	27	6.8
7							
8							
9	Average	6.6	7.4	7.0	6.0		
10							
11							
12							

Exercise 16

1. 1. formula bar
   2. row
   3. column
   4. cell

2.

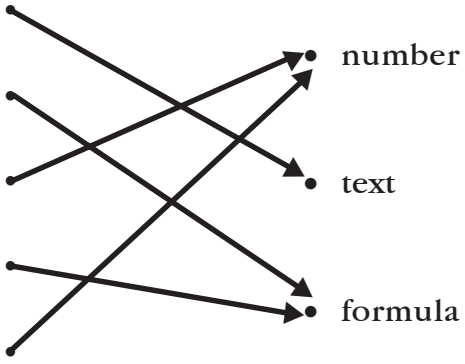
(a) Total

(b) =C7-C6

(c) 75

(d) =AVERAGE (D6:D9)

(e) 45.95



3. (a) Text is bold
   (b) Text is right aligned
   (c) Addition of £ currency sign
   (d) Wages made bold

4. (a) =sum(B4:B10) or B4+B5+B6+B7+B8+B9+B10
   (b) fill right or replicate
   (c) =sum(B11:H11)
   (d) =average(B11:H11)

Exercise 17

Database

3. (a) 1968
   (b) Mini or Maxi

5. You Don't Know

Exercise 18

2. Artist – Wild Oats
   Title – It is really me

3. Artist – Travellers
   Title – On the ship

Exercise 19

2. Quartz
3. 4
4. 17
   5

Exercise 23

1. (a) First Name, Surname, Street, Town
   (b) Age
   (c) Appointment

2. (a) 3 fields
   (b) 5 records
   (c) Weekly Income

3 (a) The doctor will ***search*** the file for the ***records*** which ***contain*** 9 August 2005 in the Appointment ***field***.
   (b) The doctor will ***sort*** the file in the ***surname*** field.

Exercise 29

1. (a) Rectangle
   (b) Line
   (c) Ellipse/oval/circle

2. The second rectangle's line is thicker than the first's.

3. The fill pattern is different.

4. Flipped vertically.

5. Rotated through 90°.

Exercise 32

Word processing

1. Letters/memos/worksheets, etc.

2. Can edit document/save and use later/many printouts of the one document/more efficient, etc.

3. People need retrained to use word processors/unemployment – not as many typists are needed/cost of buying computer equipment.

Spreadsheets

4. Keeping financial records of a company/working out wages/ working out bills, etc.

5. Can edit document/save and use later/many printouts of the one document/more efficient, etc.

6. People need retrained to use spreadsheets/unemployment – not as many typists are needed/cost of buying computer equipment.

Databases

7. Keeping a Christmas card address list/stock control in garage, shop, etc.

8. More space in the office – fewer filing cabinets.
   Very hard to lose electronic copy of files – make backups.
   Can edit document/save and use later/many printouts of the one document/more efficient, etc.

9. People need retrained to use spreadsheets/unemployment – not as many typists are needed/cost of buying computer equipment.

Graphics

10. Creating logos/computer-aided design – drawing houses and 3D models; bathrooms; kitchens, etc.

11. Very hard to lose electronic copy of files – make backups
Can edit document/save and use later/many printouts of the one document/more efficient, etc.

12. People need retrained to use spreadsheets/unemployment – not as many typists are needed/cost of buying computer equipment.