Analysis
Problem 1

Output
Customers want instructions about looking after the plants they buy. I am going to produce a plant information leaflet.

Information to Output
The leaflet will need to include:

- The Garden Centre's name, address and phone number.
- The Garden Centre's logo.
- A heading saying: "How to care for your Century Plant."
- A picture of the *Agave Americana* (Century Plant.)
- Instructions for growing the *Agave Americana*.
- Information about the Garden Centre's opening times.
- Details of the Garden Centre's products.
- At least one photograph of the Garden Centre.

Data Needed
In order to complete this leaflet, I will need the following data:

- The Garden Centre's name, address and phone number:
  The Plant House Garden Centre.
  Lake Road, Lancre, LA1 9UN.
  Tel: 01760 780001.   (This was found on Jo's business card.)
- The Garden Centre's logo, which will be found on disk.
- Plant name: *Agave Americana*.
- A picture of the *Agave Americana*, which will be found on disk.
- Instructions for growing the *Agave Americana*, which will be found on disk.
- Opening times: April – September, Monday – Saturday 9:30am – 8:30pm, and Sundays 11:00am – 5:00pm. In Winter – close at 4:00pm every day. Closed Christmas Day, Boxing Day, and Easter Sunday. (This was found in the booklet.)
- Products: Shrubs and Trees, Bedding Plants, Bulbs, Seeds, Pond Supplies, Fish, Pots, Garden Ornaments, and Garden Tools – all available at reasonable prices. (This was found in the booklet.)
- At least one photograph of the Garden Centre, which will be found on disk.

Performance Criteria
In order to complete this task successfully:

- The whole leaflet will be A4 sized with information on one side of two separate sheets of paper.

- The leaflet will be in colour.
- The information will be well laid out.
- The heading will be "How to care for your Century Plant."
- The heading will be big.
- It will include the Garden Centre's name, address and phone number.
- It will include the Garden Centre's logo.
- It will include the plant name: *Agave Americana*.
- The Latin name will be written in italics.
- It will include a picture of the *Agave Americana*.
- It will include instructions for growing the *Agave Americana*.
- I will make sure that I use the correct picture of the *Agave Americana*.
- The plant name: *Agave Americana*, the picture of the *Agave Americana* and the instructions for growing the *Agave Americana* will all be on the same side of the leaflet.
- It will include information about the Garden Centre's opening times.
- It will include details of the Garden Centre's products.
- It will include at least one photograph of the Garden Centre.

Testing is not needed, but Jo would like a sample leaflet.

Problem 2

Output
All the plants have to be labelled. I am going to create a database system which can be searched for plants that flower during a particular period and will then print labels for these plants. I am going to produce two sample sheets of labels.

Information to Output
The labels with need to include the following things:

- The Garden Centre's name.
- The Garden Centre's logo.
- The Latin name of the plant.
- The plants eventual height, eventual width, and flowering period.
- The price of the plant.
- A colourful border.

Data Needed
In order to complete these labels, I will need the following data:

- The Garden Centre's name: The Plant House Garden Centre.
- The Garden Centre's logo, which will be found on disk.
- The Plant Data file which contains information for all the Garden Centre's plants. The parts of this file that I will need for my database are: Latin name,

eventual height, eventual width, flowering period, and price. This file will be found on disk.

Performance Criteria

In order to complete this task successfully:

- I will be able to make labels for plants that flower during a particular period.
- The labels will include the Garden Centre's name.
- The labels will include the Garden Centre's logo.
- The labels will include the Latin Name of the plant.
- The Latin name of the plant will be in italics.
- The labels will include the eventual height, eventual width and flowering period of the plant.
- The labels will include the price of the plant.
- The price of the plant will be clear.
- The labels will have a colourful label.
- The labels will be 5cm high by 9cm wide and no bigger.

My system will need to be tested by using a query to search my database for plants that flower during summer, and then checking with the table in the booklet that I have got the correct ones. I will then need to print two sheets of these plant labels.

Problem 3

Output

The Garden Centre needs an easy way to work out the cost of pond kits according to the customers pond size. I will produce a spreadsheet system to do the calculations of pond costs and sizes and display this on the screen, and I will print out two examples.

Information to Output

My spreadsheet will need to display the following:

- The customer's name.
- Length of Pond.
- Width of Pond.
- Depth of Pond.
- Item: Pond Liner, Underliner, Underwater Plants, Decorative Plant Pack, Water Lily, Fountain.
- Price Per Unit (of each item).
- Quantity Needed (of each item).
- Price of each item.
- Final cost of Pond Kit.

Data Needed
I will need the following information and formulae, which were all found in the booklet:

- Pond liner = £4.40 per square metre.
- Underliner = 90p per square metre.
- Bunch of underwater plants = 50p.
- Decorative plant pack = £3.50.
- Water lily = £8.50.
- Fountain = £55.00.
- Length of pond liner = (2.5 x depth) + length of pond.
- Width of pond liner = (2.5 x depth) + width of pond.
- The underliner is the same size as the liner.
- Measure to the nearest centimetre (0.01m).
- Number of decorative plant packs = (length of pond liner + width of pond liner) x 2.
- Number of bunches of underwater plants = length of liner x width of liner x 5.
- Cost of pond liner = length x width x cost per square metre.
- 5 bunches of underwater plants for every square metre of pond liner.
- Round up to the nearest whole bunch.

Performance Criteria
In order to complete this task successfully:

- It will be easy to change the length, width and depth of the pond.
- It will be easy to alter all the figures.
- There will be a formula to round up decimals to the next whole number.
- The customers name will be on the sheet.
- It will work out the final cost of any pond kit according to the data I input.
- It will fit on one side of A4.

My system needs to be checked against a pond that has already been worked out:
Mrs. Smith wants a pond 2m x 1.5m and 1m deep. I will input this data in my spreadsheet system, and I will expect the following results:

Liner length = 2.5 x 1m + 2m	= 4.5m
Liner width = 2.5 x 1m +1.5m	= 4m
Liner size = 4.5 x 4m	= 18m2
Cost of pond liner = £4.40 x 18	= £79.20
Cost of underliner = £0.90 x 18	=£16.20
Underwater plant bunches = 5 x 18 x £0.50	= £45.00
Decorative plant packs = (4.5 + 4) x 2 x £3.50	= £59.50
Water lily	= £8.50
Fountain	= £55.00
Total Cost	= £263.40

If my system does not output these results, then I have made an error and must go back and check my system.

A new problem also needs to be tested:
Mr. Patel wants a pond 3m x 2m. How deep can he have this pond if he wants to keep the price under £300?

Then these examples both need to be printed out on separate sheets of paper.

Problem 4

Output
The Garden Centre needs a website to inform customers of what they sell and the prices for plants and supplies. The output will be a website for the Garden Centre.

Information to Output
There will be a Home Page and four other pages. The Home Page needs to include:

- The name, address and phone number of the Garden Centre.
- A photograph of the Garden Centre.
- The paragraph that explains that the Garden Centre grows all the plants they sell from seeds or cuttings.
- Hyperlinks to four other pages called: 'Trees and Shrubs', 'Herbaceous Perennials', 'Bedding and Rockery Plants', and 'Garden Supplies'.

Each plant page ('Trees and Shrubs', 'Herbaceous Perennials', and 'Bedding and Rockery Plants') needs to include:

- A list of Latin names and prices of the plants sold at the Garden Centre. I will know which page each plant will go on according to it's plant type (e.g. if the plant type is tree, then it will go on the 'Trees and Shrubs' page).
- A picture on each page to illustrate what that page is about (e.g. on the 'Trees and Shrubs' page, there will be a picture of a tree or shrub).
- A hyperlink to the Home Page.

The 'Garden Supplies' page needs to include:

- A list of the items sold at the Garden Centre and their prices.
- A picture of an item.
- A hyperlink to the Home Page.

Data Needed
In order to complete this website, I will need the following:

- The Garden Centre's name, address and phone number:
  The Plant House Garden Centre.
  Lake Road, Lancre, LA1 9UN.
  Tel: 01760 780001. (This was found in the booklet.)

- A photograph of the Garden Centre, which will be found on disk.
- "All of our plants are home grown, we grow them either from seed or from cuttings. This means that we are able to guarantee that the plants you buy are healthy. If your plant shows signs of disease within 2 weeks of purchase you can return it for a full refund or replacement." (This was found on disk.)
- A list of the Latin names and prices of the plants sold at the Garden Centre, which will be found in the Plant Data file on disk.
- A list of the items and prices sold at the Garden Centre, which will be found in the Plant Data file on disk.
- A picture of a tree or shrub, which will be found on disk.
- A picture of a herbaceous perennial, which will be found on disk.
- A picture of a bedding plant or a rockery plant, which will be found on disk.
- A picture of one item, which will be found on disk.
- Clipart pictures that will be used for the hyperlinks on every page, which will be found on disk.

Performance Criteria

In order to complete this task successfully:

- The hyperlinks will include a clipart picture with the title of the page that it is linking to in text underneath.
- A different clipart picture will be used for each hyperlink, but the same one will be used for every link to the Home Page.
- I will keep a consistent layout and style for my whole website.
- Each page will be attractive.
- There will be one picture on each page to illustrate what that page is about, and I will make sure that this is the correct picture.
- The lists of plants and prices will end up on the correct page.
- The Latin names of plants will be in italics.

I will need to check the hyperlinks on every page. If the hyperlinks do not take me to the correct pages, then I will need to change them so that they do. A printout of all the pages is needed after I have checked my hyperlinks.

Problem 5

Output

Customers want a plant that will fit in a specific space in their garden, and they want to know what plants the Garden Centre sells that would be suitable. The output will be a database system which can be searched for plants which fit certain criteria (a given size and required light condition). I will test my system using the example criteria provided in the booklet, and I will print a list of the plants that I find which fit this criteria.

Information to Output

The list will need to include:

- The Garden Centre's name.
- The Garden Centre's logo.
- The light condition needed by the plants on the list.
- Four columns: 'Common Name', 'Maximum Height', 'Maximum Width', and 'Flowering Period.'

Data Needed

In order to complete this database and list I will need the following data:

- The name of the Garden Centre: The Plant House Garden Centre.
- The Garden Centre's logo, which will be found on disk.
- The Plant Data file which contains information for all the Garden Centre's plants. The parts of this file that I will need for my database are: Common Name, Maximum Height, Maximum Width, Flowering Period and Light Needed. This file will be found on disk.

Performance Criteria

In order to complete this task successfully:

- The system will be easy to use.
- There will be no more than the four column headings on the list.
- The list will fit on one page of A4.
- The Garden Centre's name and logo and the light needed will be at the top of the page.

My system will be tested by finding plants less than or equal to 0.75m high and less than or equal to 1.00m wide. The plants must be able to grow in shade. I expect my system to find the following four plants: Skimmia, Primula, Greater Periwinkle and Shield Fern. If my system finds different plants, then I need to check and change my system.