Name: _____ Date: _____

Fathom™

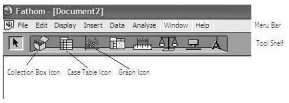
Fathom™ is a dynamic statistical software package. It will allow you to enter, modify, graph, and analyse data. The following overview will provide you with what you need to use *Fathom*™ in conjunction with *Principles of Mathematics 9*. The instructions work for *Fathom*™ 1 and *Fathom*™ 2. Screens shown here were created using *Fathom*™ 1.

Start *Fathom*™

To access *Fathom*™, double-click the *Fathom*™ icon . This is located either on your desktop or on the **Start** menu.

The Menu Bar

The menu bar contains all the standard *Fathom*™ functions.



File Menu

Use this menu to open and save a *Fathom*™ document.

The Tool Shelf

Edit Menu

Use this menu to copy or cut selected items, and to paste previously copied items. You can also use this menu to undo operations you have performed in *Fathom*™.

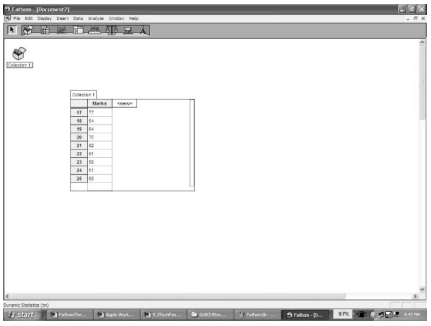
The toolbar contains icons of the key objects. You can place new objects in the workspace by clicking on the desired icon, and dragging.

Case Table

To create and enter data into a case table:
- drag the **Case Table** icon from the **Tool Shelf** into the workspace
- click <new>. Type the attribute name you would like for the data, and press enter. The example used Marks.
- click in the box below the name, enter your data, and press enter
- continue until you have entered all the data items.

Collection Box

As you enter data into the case table, a small treasure chest will appear automatically and fill with gold balls. This is called a **Collection Box**. Each gold ball represents one row of data in the collection box.



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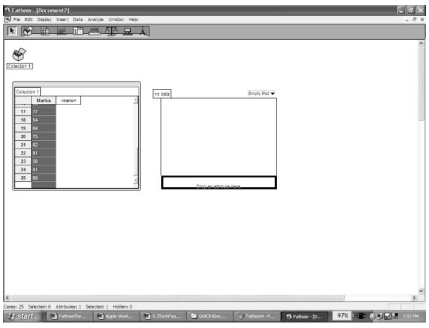
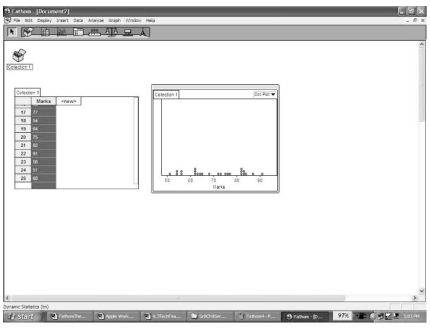
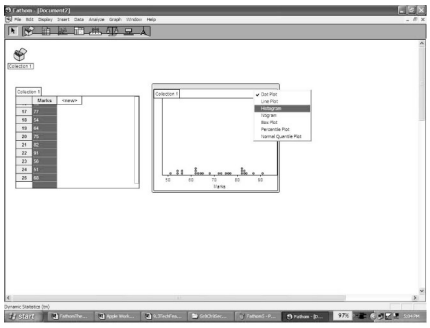
Graph Box

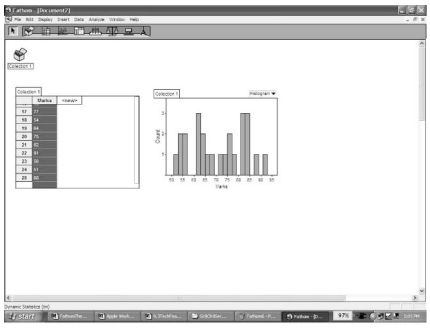
To create a graph of the data you have entered:



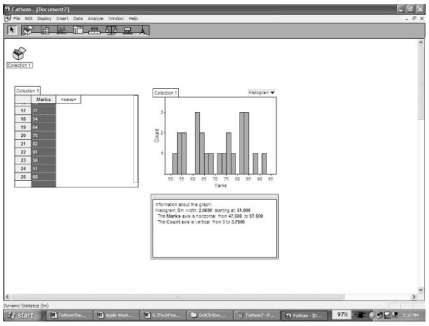
- drag the **Graph** icon from the **Tool Shelf** into the workspace
- place the cursor over the name attribute you gave your data. The cursor will change to a hand. Click and the hand will change to a fist; all the data will be highlighted.
- drag the fist over to the **Drop an attribute here** line, which is along the horizontal axis of the graph. Let go of the mouse button.
- A dot plot of the data will appear. To change this to a histogram, click the words “dot plot” in the right corner of the graph box and select histogram from the list.

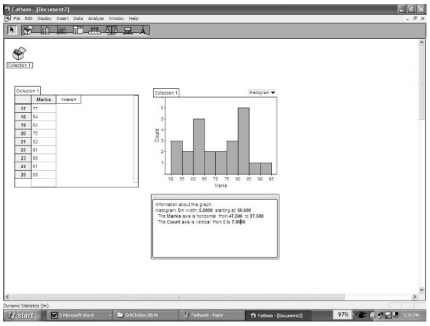






- To change the appearance of your graph, double-click the body of the graph. An information box will appear. You can edit any item that is in blue.





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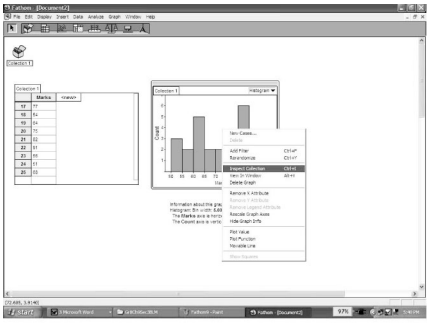
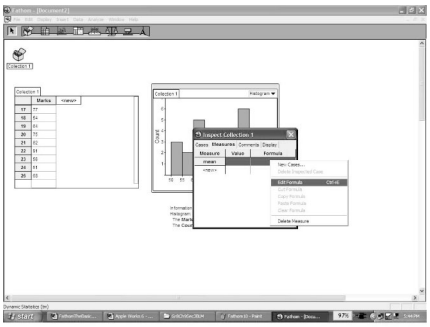
To Find the Mean and Median

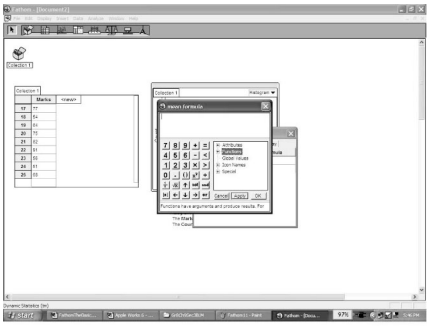
Mean

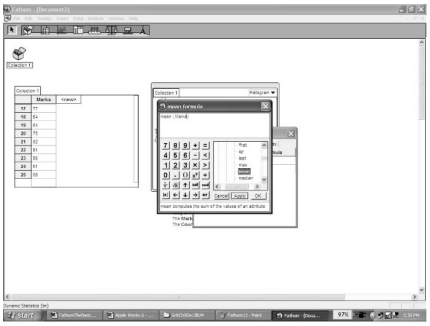


- Right-click either the graph or the case table, and click **Inspect Collection** on the pop-up menu.
- On the **Measure** tab, click <new>, and type Mean.
- Right-click under the formula heading, and click **Edit Formula** on the pop-up menu.



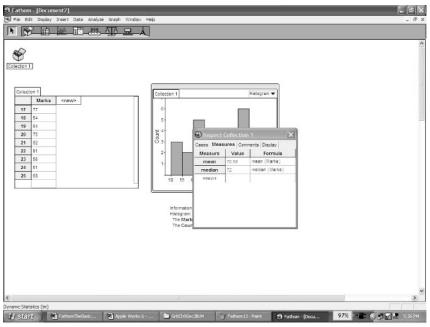
- A box resembling a calculator will appear. Click the **+** next to **Function**, then the **+** next to **Statistical**, and finally the **+** next to **One Attribute**.





- Scroll down the list of functions, and double-click **Mean**. The word mean, followed by a pair of brackets, will appear in the display.
- Type the name of the attribute inside the brackets. Click OK.

Median



- Click <new> under Mean, and type Median.
- Follow the above steps, beginning with “Right-click under the Formula heading... .” This time, enter **median**.

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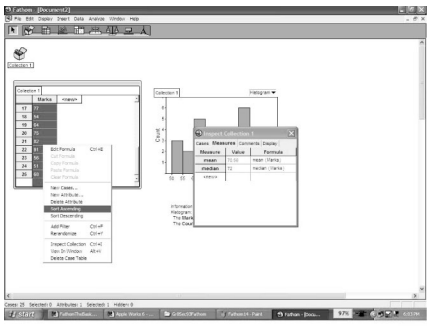
Sorting to Find the Mode

- Right-click the name attribute of your data. The data will be highlighted.
- Right-click the highlighted data, and click either **Sort Ascending** or **Sort Descending**.
- To find the mode, scan your data list for repeated values. The value that repeats the most often will be your mode.



Helping Hints

- If you make an error, you can use the **Undo** command on the **Edit** menu to undo as many steps as you need to correct the error.
- You can move **Case Table**, graphs, or any other object in the workspace by clicking the object and dragging it.
- If you click a single set of attributes in a histogram, the set will turn red. If you look in the **Case Table**, all the data items from that set will be highlighted blue.