We have generated graphs by hand, but more professional graphs can be generated using programs such as Microsoft Excel.

Begin by creating a worksheet with the data for five classes.

2. In cell A2, type Class Average Comparison
3. Press Enter.
5. Click the Center Across Columns button on the formatting menu bar.
   (If you do not know which button this is, slide your mouse along the corners of the buttons and it will identify them for you.) This is the shortcut for the steps you did using format cells, alignment tab, horizontal and Center Across Selection
6. Select cells A2 through I2. Center the words for this row.
7. To make this title stand out, click the Bold button and change the font size to 14.

Add row and column labels

Too much information or poorly labeled information can result in hard-to-read charts. Here you know you want to show how each of your classes did for each quarter of the year, so you'll put the quarter as one data series and the class period as the other data series.

1. Select cell B4.
2. Type Q1
3. Press Enter.
5. Place the mouse pointer on the lower-right corner (it becomes a black +) and drag across to E4. You have used Autofill to complete the series. You'll find this to be a very handy feature when you need to label several items in succession. Now, you'll use it again.
6. Select cell A5.
7. Type Period 1.
8. Press Enter.
10. Place the mouse pointer on the lower right corner of the cell and drag down through cell A9.
Adding the data points

Now type in the class average for each class for each quarter, and then you'll be ready to chart the information.

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period 1</td>
<td>78</td>
<td>76</td>
<td>81</td>
<td>80</td>
</tr>
<tr>
<td>Period 2</td>
<td>86</td>
<td>84</td>
<td>87</td>
<td>83</td>
</tr>
<tr>
<td>Period 3</td>
<td>82</td>
<td>80</td>
<td>83</td>
<td>81</td>
</tr>
<tr>
<td>Period 4</td>
<td>79</td>
<td>77</td>
<td>80</td>
<td>76</td>
</tr>
<tr>
<td>Period 5</td>
<td>83</td>
<td>82</td>
<td>86</td>
<td>83</td>
</tr>
</tbody>
</table>

Creating the chart


2. Go to Insert on the menu bar and click on Chart or click the ChartWizard button on the formatting menu bar.

ChartWizard will now ask you a few questions and help you complete the key components of your chart.

   a. For step 1, make sure the column graph is highlighted under chart type. Click on “press and hold to view sample” to get a preview of the appearance. Click Next.

   b. For step 2, click the Columns circle. if it is not already selected . Click Next.

   c. For step 3, type Class Comparison Table in the Chart title blank. Type scores in the Value y-axis blank. Click the Legend tab and make sure the Show legend box is checked. Click Next.

   d. For step 4, click the option for in Sheet 1. Click Finish.

3. Move the chart underneath your data and resize it so that its width matches the width of your data.

Editing your chart

Sometimes you will want to change the labels after the chart has been created. Here's how to make these changes:

1. To activate the chart for editing, click anywhere on the chart to select it.
2. Right-click the selected chart to see a list of editing options. Choose chart options. *Note: This list of options will be different depending on what part of the chart you click. If you right-click the legend, then you will get editing options for the legend only. If Insert Titles doesn’t appear in your list of options, right-click elsewhere in the chart until it does.*

Now you will change a title for the Y axis of your chart.

3. Click on the tab Titles. Change the name of the y-axis to **Student scores**. Click on the data labels tab. Click the value box to turn off the values. Click Okay.

You can experiment as much as you like with colors and patterns and 3D charts, but remember, the purpose of a visual aid is to help explain the underlying data, and a good chart will accomplish this with simplicity and clarity.

Once you feel comfortable with the steps required to create a chart, click on sheet 2 at the bottom of the screen, and work problem 14 on page 684 of your test. Note that once you have generated the histogram (part a), you can copy it, paste it into sheet 2, then change the chart type to generate the frequency polygon. Then go to sheet 3 and work problem 12 on page 683.

Print the worksheet with the charts to receive your homework grade. You may save the file to your H: drive and finish it later if necessary.