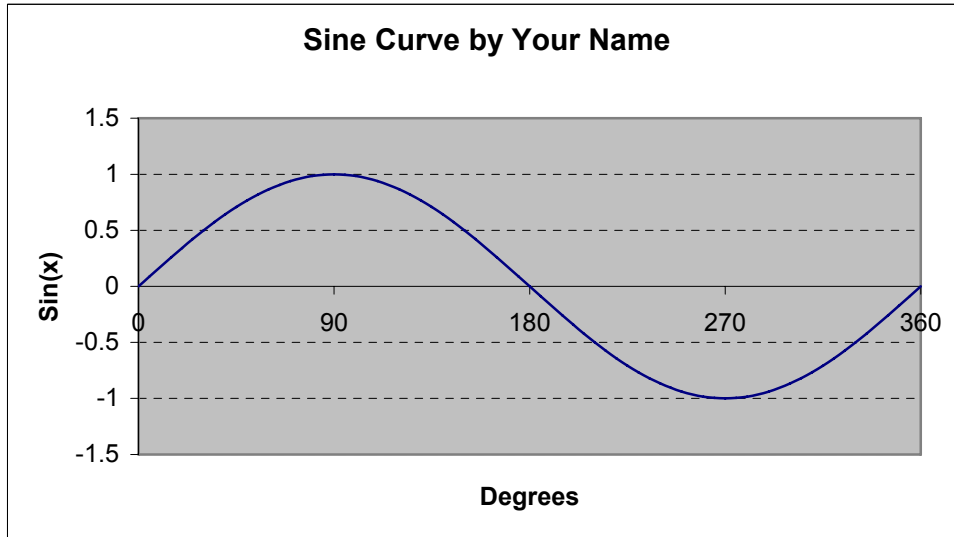


CPTG104 – Homework #3

Use Excel to create a graph of the Sine curve **exactly** like the one shown below. Replace the words “Your Name” in the title with your name.



The sine curve is plotted using the mathematic trigonometry function **sin()**. The *x*-axis (horizontal) is the degree from 0 to 360. The *y*-axis is the value of the sin function for a given degree. To plot this curve, you will need to create three columns of numbers in Excel. The first few numbers are shown next. The first column is the angle in degrees. The second column is the angle in radians. The last column is the sine of the angle in radians.

Degrees	Radians	Sin(x)
0	0	0
5	0.087266	0.087156
10	0.174533	0.173648
15	0.261799	0.258819
20	0.349066	0.34202
25	0.436332	0.422618

For the Degrees column, the numbers go from 0 to 360 in increments of 5. So there'll be a total of 73 rows.

For the Radians column, the numbers are calculated using either the function **RADIANS()**, or the following equation:

$$\text{Radians} = \text{Degrees} \times \pi \div 180$$

To get the value for π , you can use the function **PI()**.

For the Sin(*x*) column, use the **SIN()** function. This function requires one argument *x*, which is the radians value from the second column, i.e. **sin(radians)**.

After getting the numbers for these three columns, you can get the sine curve by graphing the numbers in the Degrees and Sin(x) columns (i.e., 1st and 3rd columns). Use the XY scatter chart type. Finally format the chart as shown in the sample.

Pick any one row of numbers (except the first row) from your Excel spreadsheet. Write down the three equations that you have entered in for the three columns in this row?

Equation for the Degrees column: _____

Equation for the Radians column: _____

Equation for the Sin(x) column: _____

Print out just the graph of the sine curve. DO NOT print out all the numbers. Remember to put your name in the graph title.