

Intro to Excel Problem Set (from 1/15/2024)

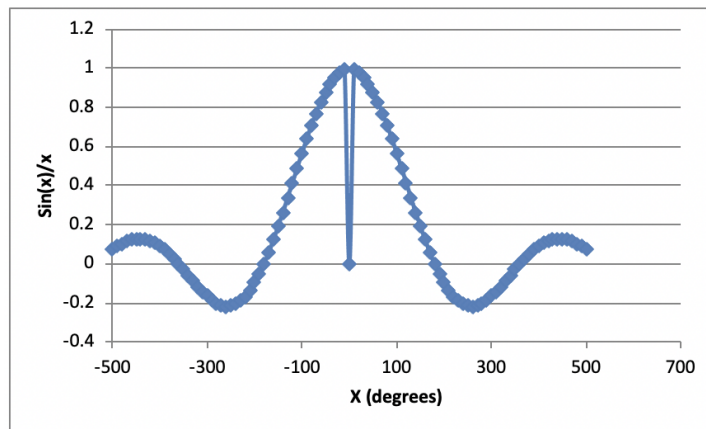
Engineering 104 - Fundamentals of Engineering Computing

Complete the following problems in Excel and include as part of the submission of the appropriate assignment. Your assignment file should include a proper heading, comments and have a clear organizational structure. Each problem in the combined assignment should have its own tab in a combined Excel workbook.

Excel (7 Points)

Problem 1.1 (3 Points)

Create a sheet named **Problem 1.1** in your *Assignment 2* Excel spreadsheet document that computes values and duplicates the plot below. The function is $Y = \frac{\sin(x)}{x}$. The range of x values is -500 to +500 degrees, incrementing by 10. You must convert to radians to compute Y.



As text in a cell explain why is the function discontinuous at $X=0$?

Problem 1.2 (4 Points)

Create a sheet named **Problem 1.2** in your *Assignment 2* Excel spreadsheet document that compute and plots the function,

$$Y = 3x^2 - 12.4x + 3$$

for a range of x-values.

(a) By selecting different ranges of x and different increments, find the 2 (approximate) roots of this equation, i.e. for what 2 values of x is $y=0$? Show the plot that supports your answers.

(b) Confirm your answer by solving for the roots analytically (quadratic formula). Do this in Excel by entering the formula for the quadratic equation (see below).

Solve Quadratic Formula					
A	5		Enter coefficients here		
B	4				
C	3				
root1=	=...		Enter quadratic formula here, referencing coefficients		
root2=	=...				