MET 107
Homework 24

Areas using Mathcad

Resolve the problems from Homework 23 in Mathcad using vectors.

Use the format detailed in the reading for the Coordinate Method as well as the Trapezoid method.

Do these using three separate worksheets.

The reason for this is that the worksheets for using the Trapezoid method will be written using a generalized format so that simple changes to the input will cause a full update of the arrays. After printing the results for a given case, change the input to the next case and re-print the worksheet.

Note: For Trapezoid_Method_2 all array references should be variables, and not hard coded values. For both Trapezoid_Method_1 and _2 make sure you have the Mathcad generated graph displayed and intermediate "check" values displayed as shown in the reading.

Required documentation for Mathcad:

1 page – Coordinate Method using the same input as Excel Homework 23.

2 pages – Trapizoidal_Method_1, y=x^2+4 with 20 panels
2 pages - “ _2, y=x^3 and y=3x+2 with 4 panels
2 pages - “ _2, y=x^3 and y=3x+2 with ?? panels (ie Area is within .04% +/- .01% of true area)

1 page – Summary Sheet (from web pages)

Append these documents to the end of your Excel documentation.

Note: Excel documentation order:

Coordinate Method – spreadsheet
Coordinate Method – cell formulas
Trapezoid_Method_1 y=x^2+4 – spreadsheet
Trapezoid_Method_1 y=x^2+4 – cell formulas
Trapezoid_Method_2 y=x^3 and y=3x+2, 20 panels – spreadsheet
Trapezoid_Method_2 y=x^3 and y=3x+2, 4 panels – cell formulas
Trapezoid_Method_2 y=x^3 and y=3x+2, ?? panels – spreadsheet (all trials)
Graph of functions with cross hatching