

### Assessment 3

### MathCad

**Deadline for submission 12th Dec, only printed copy will be accepted.**

#### MathCad Programming

1) Write a MathCad “program” to determine the local *maxima* in a dataset of paired (x,y) values. (5 marks)

Test it on the following data:-

x	y
0	0
1	1
2	4
3	2
4	3
5	5
6	6
7	4
8	3
9	8
10	6
11	2

Plot the data and also show the maxima found by your program on the plot.

2) Read in the provided dataset “noisydata.prn”. This dataset has been infected with random noise.

a) Plot the data and try your program on that data. (3 marks)

b) Comment on the results. (2 marks)

c) Modify your worksheet so that the program finds only the “true” maxima by “smoothing” the data first. (5 marks)

3) Modify your program so that it finds the local *minima* in the noisydata.prn file. (5 marks)

The file of “noisydata” is placed on moodle (week 10).