**Mathematical Methods Excel Assignment (18%)**

**Open an Excel workbook. Answer the following questions, each question on a separate worksheet. Rename each worksheet as Question 1, Question 2 etc.**

**Each graph should have the x-axis and y-axis labelled. The chart title for each graph will be Question 1, Question 2 where relevant. Short questions on each graph to be answered in a text box.**

**Q1. [20 marks]** Plot the graph of y = 3e 0.5x for value of x from x = -5 to x = 4, using intervals of one. At what value of x will the curve cut the x-axis?

Use your graph to find the value of

(i) y when x = -1.5

(ii) x when y = 15

**Q2. [20 marks]** Plot the graphs of y = 3x - 4 and y = 2x2 – 7x - 10on the same axes for -2 ≤ x ≤ +8 using intervals of 1 unit.

Use your graph to solve simultaneously the equations.

What is the slope of the line and the y-intercept?

**Q3. [20 marks]** Plot the graph of y=2sinx and y= cos2x for 0 ≤ x ≤ using intervals of . Write down the period and amplitude of each function. Explain, in your own words, what the period and amplitude mean.

**Q4. [40 marks]** Plot the graph of y = 4cos(3x + 20° ) for 0 ≤ x ≤ using intervals of . Write down the period and amplitude of the function.

**Use your graph** to answer the following:

1. Solve 4cos(3x + 20° ) = -2.5 for 0 ≤ x ≤ .
2. What is the value of y when x = 75°?
3. What is the value of y when x = 420°?

**Save your work and upload a single Excel file to Moodle**