**Mathematical Methods Tutorial Sheet 3 Functions**

**When answering these questions you are using pen and paper rather than Excel**

**Q1.** Write down the amplitude and period of each of the following:

(i) y = 3sinx [amplitude = 3; period = 360]

(ii) y = 4cos2x [amplitude = 4; period = 180]

(iii) y = sin0.5x [amplitude = 1; period = 720]

(iv) y = 4sin(3x + 30°) [amplitude = 4; period = 120]

**Q2.** By determining the period and the amplitude, sketch the graph of y=5sin3x

for 0 ≤ x ≤ 360°

**Q3.** Plot the graph of y = 2sin(3x + 30°) for values of x such that 0 ≤ x ≤ 150° using intervals of 10°.

(i) State the amplitude and period of y = 2sin(3x + 30°)

(ii) Use your graph to solve 2sin(3x + 30°) = 1.2

(iii) Use your graph to find y when x = 25°

(iv) What is the value of y when x = 320°?