### Sample 6e



**In the mass-spring system shown above, the masses m1, m2 and m3 are .8, .6**

**and .5, the spring constants k1, k2, k3 and k4 are 4.3, 5.1, 4.6 and 5.4, and x1, x2 and x3 are the displacements of m1, m2 and m3 from their equilibrium positions.**

**Write a MATLAB program as follows:**

**1) t will go from 0 to 8 sec in steps of .001 sec.**

**2) For each of the 3 natural frequencies, plot x1, x2 and x3 versus t**

**using the colors blue, red and green and the t axis in black. There**

**will be 3 separate graphs of x1, x2 and x3 versus t (there will be a**

**separate graph for each of the 3 natural frequencies). Plot all 3**

**graphs in just one run of the program.**

**NOTE: Do not use the MATLAB function ode45 in this program.**

**The graphs should look like the ones on the attached sheets.**

**Equations**

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