**Engineering Mathematics Homework 4**

1. Consider the initial-value problem
   1. Find an explicit solution of the IVP. Use a graphing utility to graph this solution.
   2. Find an interval of definition for the solution in part (a).
2. Find the charge on the capacitor and the current in an LC-circuit when
3. A cantilever beam of length L is embedded at its right end, and a horizontal tensile force of P pounds is applied to its free left end. When the origin is taken at its free end, as shown in  
   FIGURE 3.9.8, the deflection y(x) of the beam can be shown to satisfy the differential equation  
     
   Find the deflection of the cantilever beam if  
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