**Engineering Mathematics Homework 2**

1. Solve the following differential equation by separation of variables.
2. Find an implicit and an explicit solution of the following initial-value problem
3. Find the general solution of the following differential equation. Give the largest interval over which the general solution is defined. Determine whether there are any transient terms in the general solution.
4. Solve the following initial-value problem. Use a graphing utility to graph the continuous function .