1) Solve the initial value problem using Laplace Transform:
   Y’ + 2y = 8t , y(0) = 6

2) Find the general solution of 2x - 6 + (2y + 1)y’ = 0

3) Solve the differential equation of y’’ + 9y = sec^2(3x)

4) Separate the following:
   y’ = x^5/y^3

5) Use euler method to solve the differential equation following:
   y’ = x - 2y , y(0.2) = 2

6) Solve (x+2)y’’ + (x-3)y’ + y = 0

7) Find the solution of the following:
   y’= 4y + 12

8) Solve the following:
   y’’ - 6y + 9y = 0