1. Find solutions to the given Cauchy- Euler equation
2. xy’+ y =0 (b) x2y’’ + xy’+y =0 ; y(1) =1, y’(1) =0

1. Find a solution to the initial value problem

x2y’ + 2xy = 0; y (1) = 2

1. Find the general solution to the given problems
2. Y’ + (cot x)y = 2cosx (b) (x-5)(xy’+3y) = 2
3. Solve the Bernoulli equation y’ = xy3 – 4y
4. Use separation of variables to solve the verhulst population problem

N’ (t) = (a-bN) N, N (0) = N0; a,b > 0

1. Verify that each of the given functions is a solution of the given differential equation, and then use the Wronskian to determine linear dependence/ independence

Y’’’ - y’’- 2y’ = 0 {1, e-x, e2x}