**Advanced Mathematics**

Lab 4

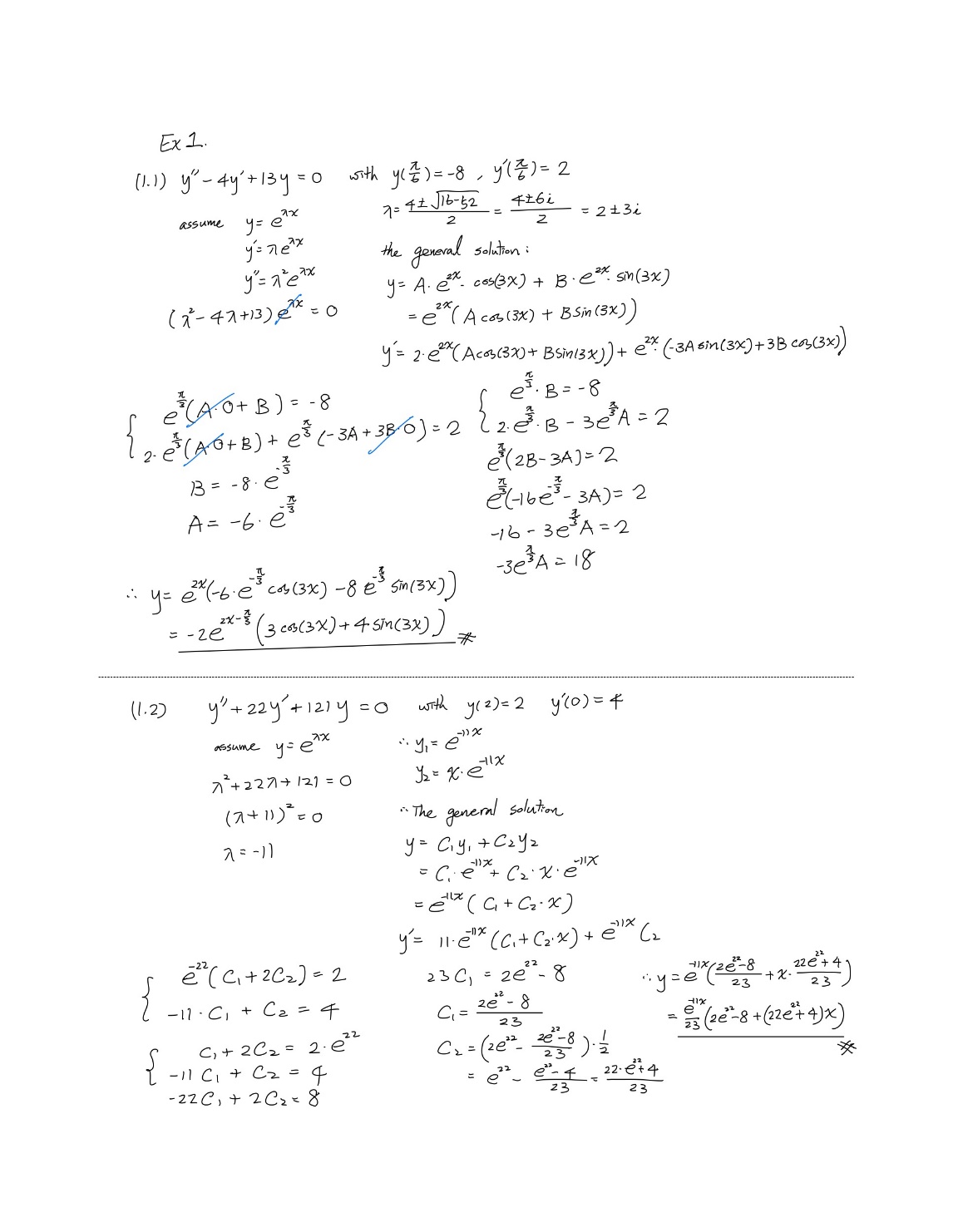
Yu-Hao Chiang 3443130

Exercise 1 – ODE to solve

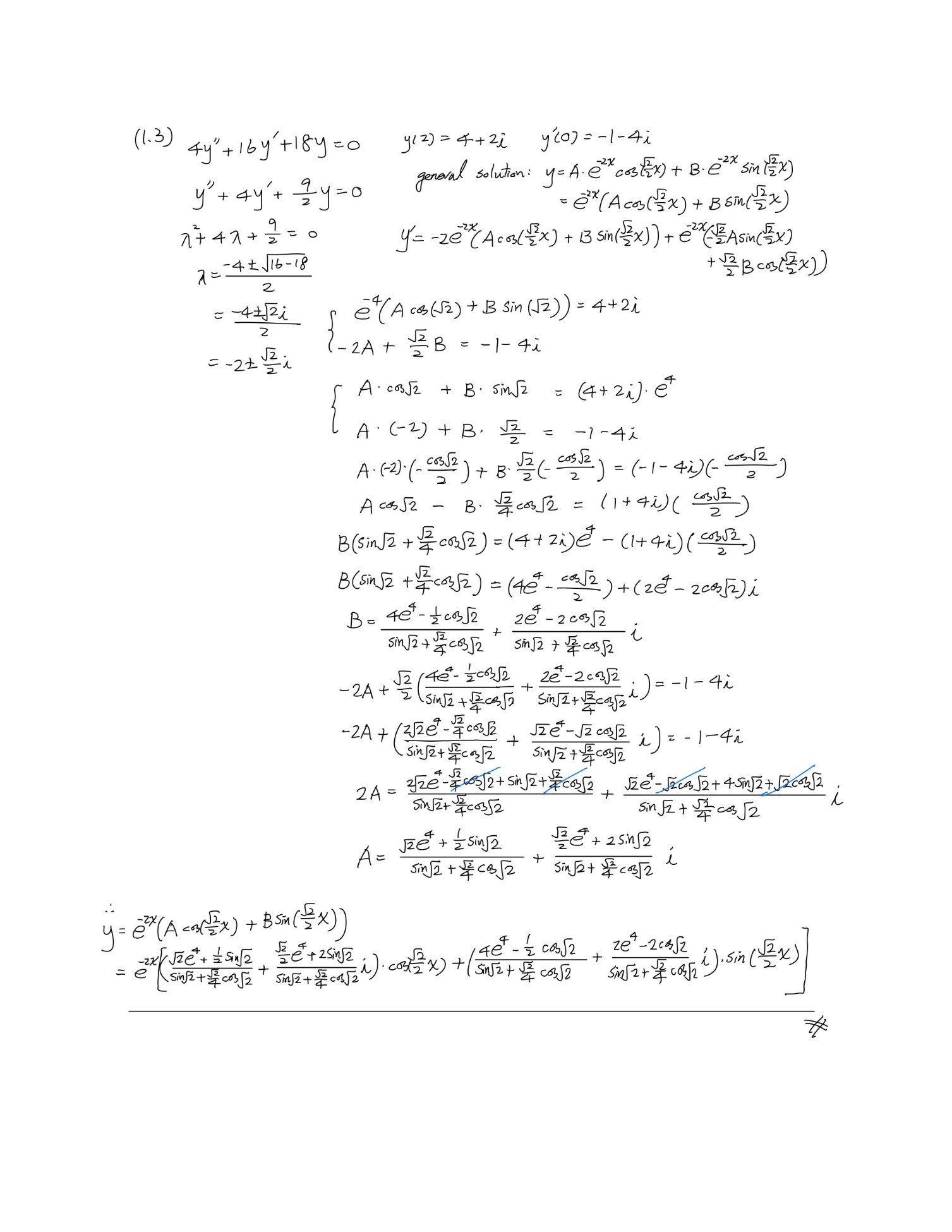
Solve these homogeneous differential equations with constant coefficients:







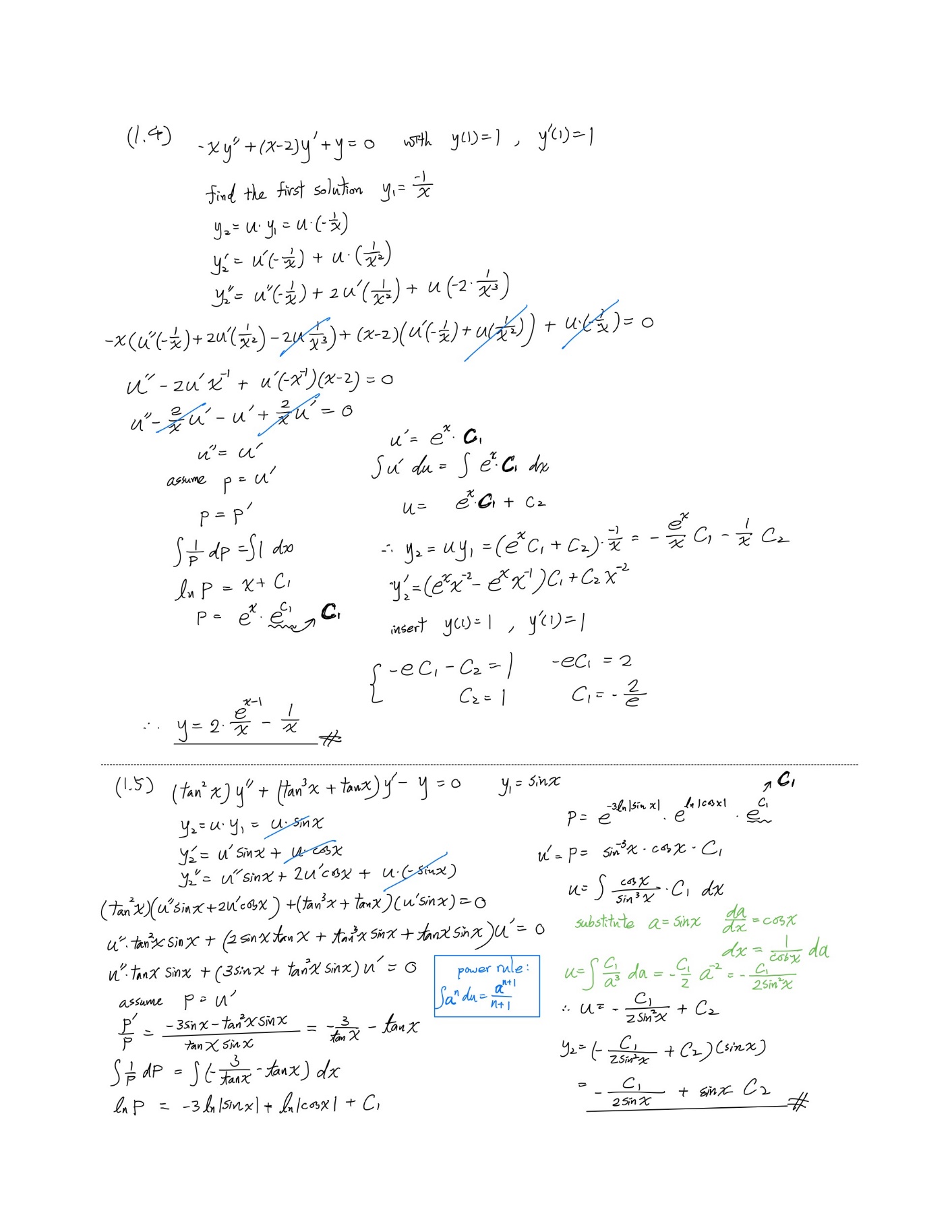




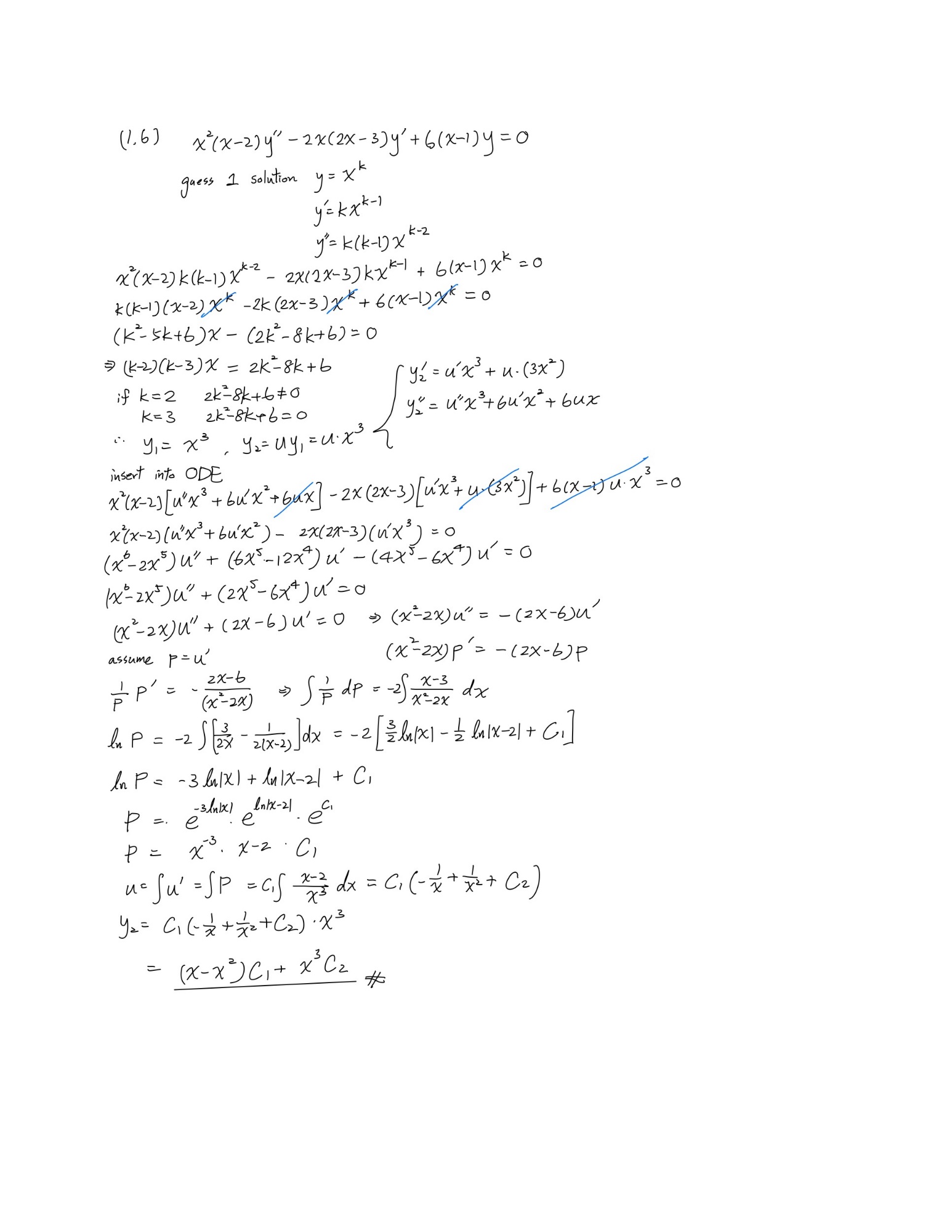
Solve these differential equations using the reduction of order:







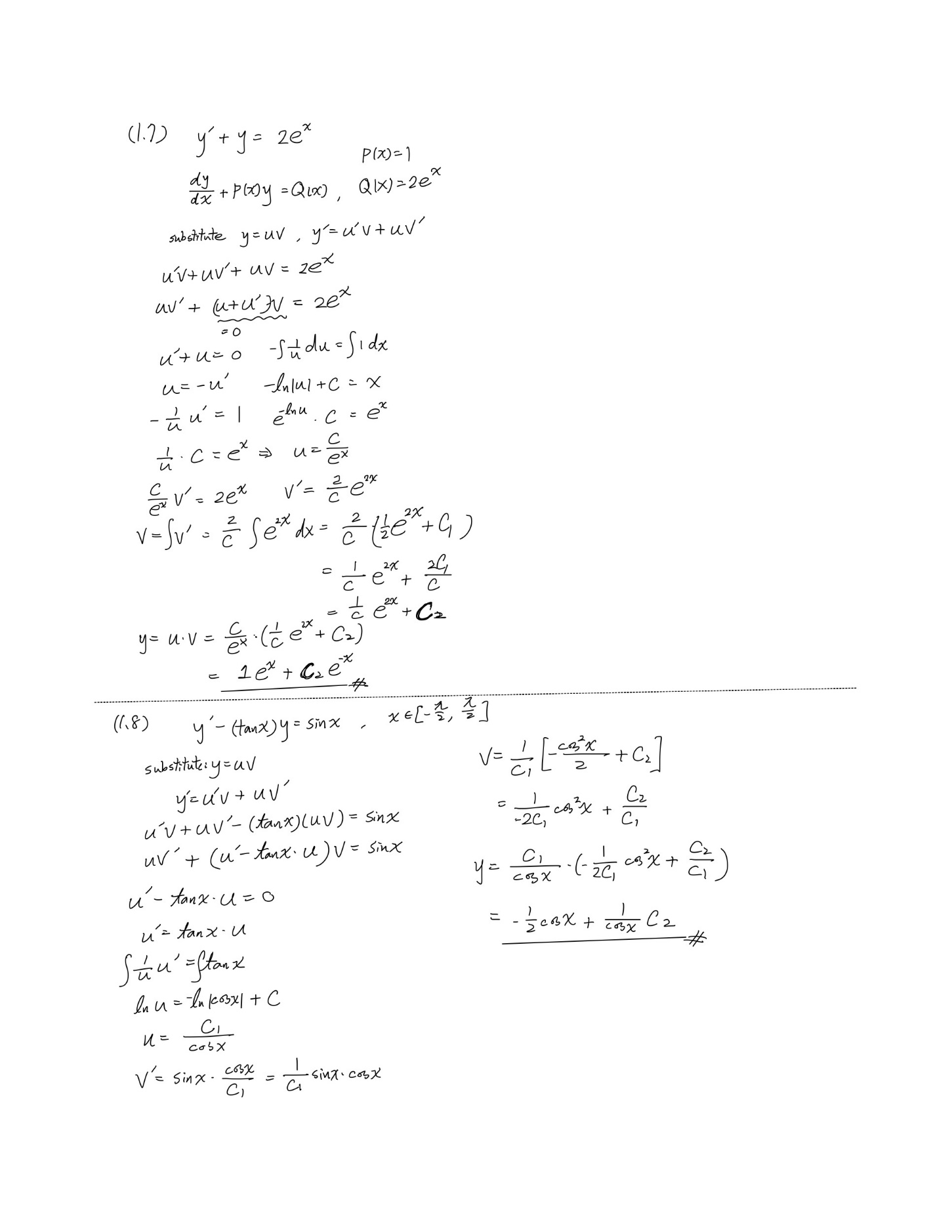




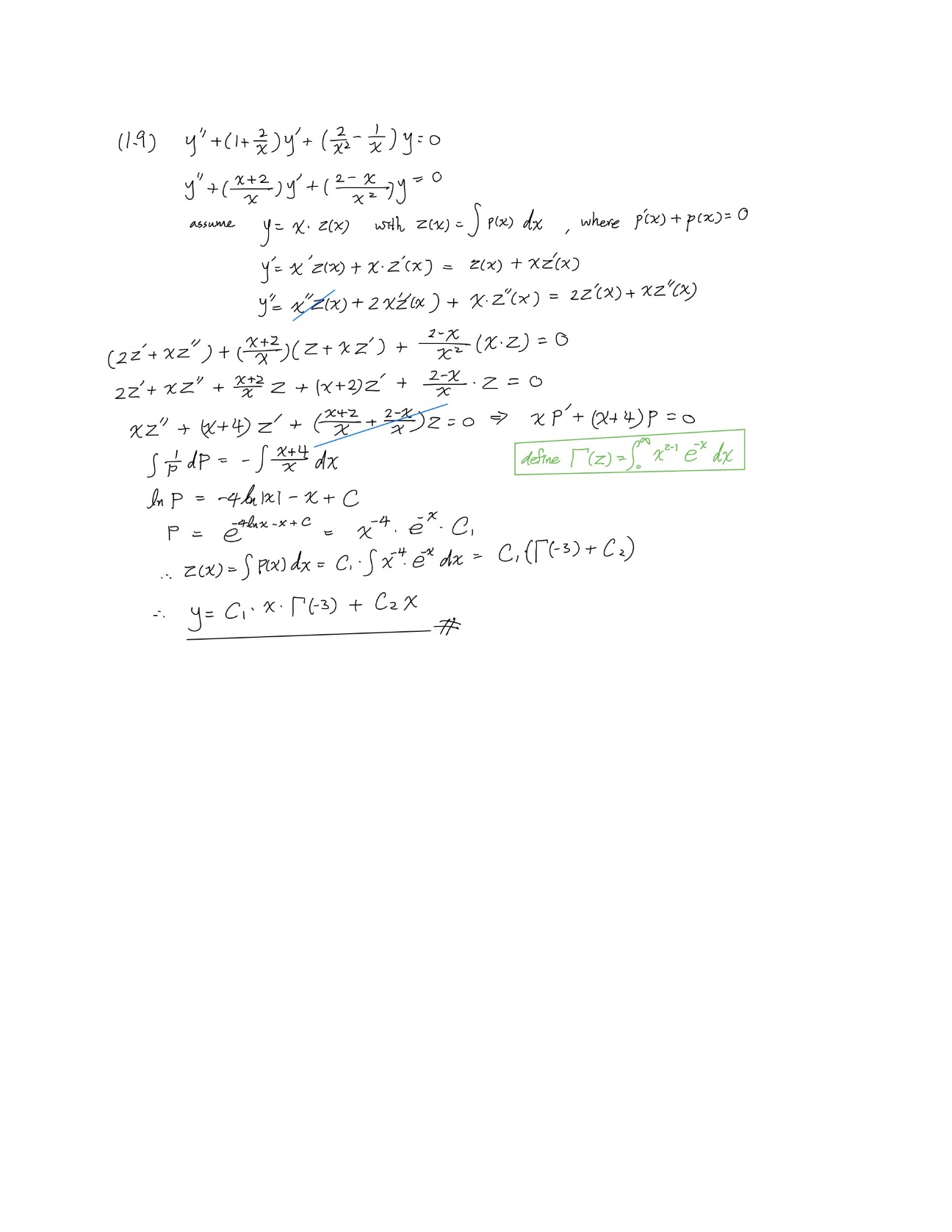
Solve these ODE:











Exercise 2 – Bernoulli and Riccati

The Bernoulli is an ODE of the form

