

Dartmouth College
Mathematics 23 - Assignment 14

1. Consider $y'' - xy' - y = 0$. Find the first four terms in a power series solution satisfying the following initial conditions. Also indicate on how large an interval the solution y is analytic.
 - (a) $y(1) = 1, y'(1) = 0$
 - (b) $y(1) = 0, y'(1) = 1$

2. Find the first four terms in a power series solution for $y'' + \sin(x)y' + y = 0$ with $y(0) = 1, y'(0) = 2$.