

MAT 239 (Differential Equations), Prof Swift
Worksheet 2b, Series Solution

1. Find the recurrence relation for the ODE

$$y' + 2y = 0.$$

(The series solution is $y = \sum_{n=0}^{\infty} C_n x^n$.

Plug this into the ODE and get $C_{n+1} = \text{something involving } C_n \text{ and } n$.)

2. If you have ~~the~~ time, solve the recurrence relation. That is, get C_n as a function of n .