Note this is LONG HW problem. You must provide complete answers including induction proofs.  
a.) Find the recurrence relation for the power series solution about the given point x\_0  
b.) Find the first four terms in each of two solutions y\_0, y\_1 (unless series terminates sooner).  
c.) Find the general term, a\_n, and prove it. Determine the general solution y = a\_0y\_0 + a\_1y\_1 and determine the radius of convergence  
d.) Show y\_0 and y\_1 form a fundamental set of solutions by evaluating the Wronskian at x\_0

For more on series solutions see [Paul's Online Math Notes](http://tutorial.math.lamar.edu/Classes/DE/SeriesSolutions.aspx) (for printing select pdf chapter notes)