Math 202-08 Quiz 1

Name:.....ID.....

Exercise 1: Find the largest regions in which the following differential equation has a unique solution,

$$(1 - x^2)y' = y + \sqrt{x}$$

Draw the regions.

Exercise 2: Find the general solution of

$$y' + 3y = 1$$

Exercise 3: Solve the differential equation,

$$(1 + x^2)y' = xy^2$$

Exercise 4: Solve the initial value problem

$$y' = 8y \ , \ y(2) = 3$$