Department of Mathematics and Statistics

Quiz No. 3

Math202, A First Course in Differential Equations, Sem112

Section: Name: ID:

Problem 1.(2 points.) Find an interval centered about **0** for which $y''(x)+(tanx)y = e^x$ subject to $y(0) = 1, y'(0) = 0$ has a unique solution.

Problem 2.(3 points.) Verify that $cosh(3x), sinh(3x)$ form a fundamental set of solutions of $y'' - 9y' = 0$ on $(-\infty, \infty)$.

Problem 3.(3 points.) Verify that $y = a\ cos(x) + b\ sin(x) + 1$ is a general solution of $y'' + y' = 1$. (Note: a and b in y are constants).