Student ID: KEY

Student Name: SOLUTION

Serial Number: _____

Math 202, Section 3 and 4
Spring 2015, Term 142

Quiz 3
Version A and B

Instructions: Show Your Work!

1. (6 pts) Consider the differential equation

$$\frac{\mathrm{d}^4 y}{\mathrm{d}x^4} - 5\,\frac{\mathrm{d}^2 y}{\mathrm{d}x^2} - 36\,y = 36x + \sin(x),$$

(a) Find the complementary solution,

(b) Find a particular solution using undetermined coefficients (annihilator approach).

2. (4 pts) solve

$$xy'' + y' - \frac{1}{x}y = x.$$