

QUIZ 5 & 7 FOR CALC 4: SECOND CHANCE

Name: _____ RUID: _____

- (1) (For Quiz 5) Verify that $y_1(x) = x$ is a solution of the equation

$$x^2y''(x) - x(x+2)y'(x) + (x+2)y(x) = 0$$

and perform the technique of reduction of order in Lecture 11 to find the general solution of the equation.

- (2) (For Quiz 7) Use the technique of variation of parameter in Lecture 13 to find the general solution of the equation

$$x^2y''(x) - x(x+2)y'(x) + (x+2)y(x) = 2x^3$$

[Hint: If you are not confident on your results, just substitute them back into the equation to see if you really got a solution.]