MATH 286 PROBLEMS DUE MARCH 28, 2001

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1. Find the fundamental system of solutions of a linear differential equation with constant coefficients and characteristic equation

$$(k-10)^2k(k+1)^4 = 0.$$

2. Find the Wronskian of the functions

$$e^t, e^{2t}, te^{2t}.$$

3. Find the Wronskian of the equation

$$y''' - 3y' + 2y = 0.$$

4. Find a particular solution of the equation

$$y''' - 6y'' + 2y' - 8y = \cos(t).$$

5. Find the general solution of

$$y''' + y' = \cot(t), \quad 0 < t < \frac{\pi}{2}.$$