INTRO DIFFERENTIAL EQUATIONS

Midterm Exam ₃

Monday, November 3, 2008 — 9:00 am - 9:50 am

Problem	1	2	3	4	evaluation form	Σ
Points						

Student's name:

Problem 1.

Find a general solution of the equation

$$ty' = y - te^{\frac{y}{t}}$$

Problem 2.

Find the solution of the initial value problem

$$y = t(y' - t\cos t), \quad y(\pi) = \pi.$$

Problem 3.

Find a general solution of the equation

$$y'' + y = \frac{1}{\sin t}$$

Problem 4.

What second order linear homogeneous differential equation with constant coefficients has a solution $y(t) = 5e^{-t}\cos t$?