

MthU343

Northeastern University

DiffEQs & Linear Alg. for Engineering

30 Minutes

Professor Gilmore

Aug. 2, 2007

Quiz #4

Name: _____.

Show All Your Work

1. Find the inverse Laplace transform $\mathcal{L}^{-1}\left\{\frac{3e^{-5s}}{s^7} + \frac{e^{-3s}(s+2)}{s^2+4}\right\}$

2. Let $f(t) = e^{2t}$ for t between 0 and 2, and $f(t)$ has period 2. Find the Laplace transform, $\mathcal{L}\{f(t)\}$.

3. Solve the initial value problem: $tx'' + 10tx' + 25tx = 0$ with $x(0) = 0$ and $x'(0) = 3$.