You may attach additional pages if you wish. Use both sides of the paper. Label the problems clearly and indicate your final answer/s clearly. Work alone on these problems.

**HOMEWORK 11**

**DUE DATE:** Mon 23 Nov

**Section 7.3**

1) Use Laplace Transforms to solve the initial value problem \(y'' - 2y' + y = t^3e^t\) with \(y(0) = 1, y'(0) = 0\). See #17.

2) Use Laplace Transforms to solve the initial value problem \(y'' - 2y' = e^{2t} \cos t\) with \(y(0) = 0, y'(0) = 0\). See #18,19.

3) Use Laplace Transforms to solve the initial value problem \(y' - 3y = t - tU(t - 2)\) with \(y(0) = 8/9\). See #51,52.

**Section 7.4**

4) Use Laplace Transforms to solve the initial value problem \(y'' + 4y = \sin 2t\) with \(y(0) = 3, y'(0) = 1\). See #22,25.

5) Use Laplace Transforms to solve the initial value problem \(y' + \int_0^t y(\tau) \, d\tau = 0\) with \(y(0) = 1\). See #56.