MATH-266
Homework #16 (Section 8.3)
Due 07/24/14 **Name:** _____

The majority of the credit you receive will be based on the completeness and the clarity of your responses. Please use equal signs where appropriate and write solutions with a logical flow. Show your work, and avoid saying things that are untrue, ambiguous, or nonsensical.

1. Solve the given initial value problem using the method of Laplace transforms.

(a) $\begin{cases} y'' + 6y' + 5y = 12e^t \\ y(0) = -1 \\ y'(0) = 7 \end{cases}$.

(b) $\begin{cases} y'' - 2y' + y = \cos(t) - \sin(t) \\ y(0) = 1 \\ y'(0) = 3 \end{cases}$

(c) $\begin{cases} y''' + 4y'' + y' - 6y = -12 \\ y(0) = 1 \\ y'(0) = 4 \\ y''(0) = -2 \end{cases}$

(d) $\begin{cases} y'' + 3ty' - 6y = 1 \\ y(0) = 0 \\ y'(0) = 0 \end{cases}$