

**Section 8.2 — Problem A**

**25 Points**

Solve the following IVP using the Laplace transform:

$$y'' + 3y' + 2y = 2e^t, \quad y(0) = 0, \quad y'(0) = -1.$$

**Section 8.2 — Problem B**

**25 Points**

Solve the following IVP using the Laplace transform:

$$y'' - 2y' + y = t^2 e^t, \quad y(0) = 1, \quad y'(0) = 2.$$

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TOTAL (POINTS): 50.