Shepley L. Ross *Introduction to Ordinary Differential Equations*

Chapter 9. The Laplace Transform

9.3. Laplace Transform Solution of Linear Differential Equations with Constant Coefficients

9.3.1. Use Laplace transforms to solve the IVP $y' - y = e^{3t}$, $y(0) = 2$.

9.3.5. Use Laplace transforms to solve the IVP $y'' - 5y' + 6y = 0$, $y(0) = 1$, $y'(0) = 2$.

9.3.9. Use Laplace transforms to solve the IVP $y'' + 4y = 8$, $y(0) = 0$, $y'(0) = 6$.

9.3.13. Use Laplace transforms to solve the IVP $y^{(4)} - y = 0$, $y(0) = 0$, $y'(0) = 1$, $y''(0) = 1$, $y'''(0) = 0$.

9.3.21. Use Laplace transforms to solve the IVP $y''' - 5y'' + 7y' - 3y = 20 \sin t$, $y(0) = y'(0) = 0$, $y''(0) = -2$. HINT: $s^3 - 5s + 7s - 3 = (s-1)^2(s-3)$.