

6.3.

6.3.1.

a)  $y'' - 2y' - 8y = 0$

$$\Rightarrow \lambda^2 - 2\lambda - 8 = 0$$

$$\lambda_1 = -2, \lambda_2 = 4$$

$$y_1 = e^{-2x}, y_2 = e^{4x}$$

$$y_h = C_1 e^{-2x} + C_2 e^{4x}$$

b)  $y'' - 2y' + y = 0$

$$\lambda^2 - 2\lambda + 1 = 0$$

$$\lambda_1 = \lambda_2 = 1$$

$$y_1 = e^x, y_2 = x e^x$$

$$y_h = (C_1 + C_2 x) e^x$$