

1-2.

11

$$y = c_1 e^x + c_2 e^{-x}$$

$$y(0) = 1 \quad y'(0) = 2$$

$$y' = c_1 e^x - c_2 e^{-x}$$

$$1 = c_1 + c_2$$

$$2 = c_1 - c_2$$

$$\left[\begin{array}{cc|c} 1 & 1 & 1 \\ 1 & -1 & 2 \end{array} \right]$$

$$3 = 2c_1 \quad \text{"add"}$$

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$$c_1 = 3/2$$

$$c_2 = 1 - c_1 = 1 - 3/2 = -1/2$$

$$y = \frac{3}{2} e^x - \frac{1}{2} e^{-x}$$