2E2 Tutorial Sheet 13 Second Term[1]

1 February 2004

1. (2) Find the general solution to

$$y' - 2y = -t \tag{1}$$

2. (3) Find the general solution to

$$\begin{aligned} y_1' &= 5y_2 - 23 \\ y_2' &= 5y_1 + 15. \end{aligned} \tag{2}$$

with $y_1(0) = -3$ and $y_2(0) = 5$.

3. (3) Find the solution to

$$\begin{aligned} y_1' &= y_1 + 2y_2 + e^t \\ y_2' &= 2y_1 + y_2 \end{aligned} \tag{3}$$