${\bf Homework}~\#6~-{\rm answers~to~additional~problems}$

A1
$$y(t) = e^{2t} + 3\cos t - \frac{1}{2}\sin t$$
.

A2
$$y(t) = 2e^{-t} + \frac{1}{2}e^{2t} - \frac{1}{2}e^{-2t} - 3.$$