1. [14 points]   Find real-valued solutions for each of the following, as indicated.   *(Note that minimal partial credit will be given on this problem.)*

    a. [7 points]   Solve $\frac{1}{3}\,y'' + 2y' + 3y = 2t$, $y(0) = 0$, $y'(0) = \frac{4}{3}$.

    b. [7 points]   Find the general solution to $y'' + 2y' + 5y = 2te^{-t}$.