(1) Find the general solution to the following differential equations.

(a) $y'' - 5y' + 6y = 0$

(b) $y'' + y' - 20y = 0$

(c) $y'' - 2y' = 0$

(d) $y'' - 2y' - 4y = 0$

(e) $y'' + 25y = 0$

(f) $y'' + 2y = 0$

(g) $y'' + 5y = 0$

(h) $y'' + 2y' + 3y = 0$

(i) $y'' + 6y' + 10y = 0$

(2) Solve $y'' + y = 0$, $y(0) = 1$, $y'(0) = 3$. 