Reading

Sections 3.3, 3.4

1. Find the general solution

   (a) $y'' + 6y' + 9y = 0$

   (b) $y'' + 2y' + 5y = 0$

2. Solve the following

   (a) $y'' + 2y' + 2y = 0, \quad y(\frac{\pi}{4}) = 2, y'(\frac{\pi}{4}) = -2$

   (b) $y'' + 4y' + 4y = 0, \quad y(-1) = 2, y'(-1) = 1$

3. For the problem

   $$ay'' + by' = 0, \quad y(0) = y_0, y'(0) = y_0'$$

   with $a > 0$, $b > 0$. Find $\lim_{t \to \infty} y(t)$.