Problem 3.1–6. Easy.

Problem 3.1–24.
  a. Just plug each of the two given functions into the linear system. Then check to see if the left-hand side is the same as the right-hand side.
  b. Since the given system is linear, you can look for a solution in the form

$$\mathbf{Y}(t) = k_1 \mathbf{Y}_1(t) + k_2 \mathbf{Y}_2(t),$$

    where k_1 and k_2 are constants. Use the initial condition to determine the values of k_1 and k_2.