MA2E01 Tutorial problems #10 (merely for practice)

- 1. Solve $y''(t) y(t) = \sin t$ subject to the conditions y(0) = 0 and y'(0) = 2.
- **2.** Solve y''(t) 2y'(t) 3y(t) = t subject to the conditions y(0) = 1 and y'(0) = 2.
- **3.** Solve $y''(t) 4y(t) = 5e^{2t}$ subject to the conditions y(0) = 0 and y'(0) = 1.
- **4.** Solve $y''(t) + 4y(t) = u(t \pi)$ subject to the conditions y(0) = 2 and y'(0) = 1.
- **5.** Solve $y''(t) + y(t) = u(t \pi) + \delta(t 2\pi)$ subject to the conditions y(0) = y'(0) = 1.