

## Math 2080: Differential Equations

### Worksheet 6.6: Boundary value problems

**NAME:**

1. Solve the following boundary value problem:

$$y'' = \lambda y, \quad y'(0) = 0, \quad y(\pi) = 0.$$

Start by considering three cases separately: (i)  $\lambda = 0$ , (ii)  $\lambda = \omega^2 > 0$ , and (iii)  $\lambda = -\omega^2 < 0$ .