

## Math 513-131      Quiz 2 (B)

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**Q.1:** Find eigenvalues and eigenfunctions of  $y'' + \lambda y = 0$  with  $y(0) = 0$  and  $y(1) + y'(1) = 0$

**Q.2:** Let  $y_n = \sin\left(\frac{(2n-1)x}{2}\right)$  be the eigenfunctions of  $y'' + \lambda y = 0$  with  $y'(0) = 0$  and  $y'(\pi) = 0$ . Express  $f(x) = x$  as eigenfunction expansion of these eigenfunctions.