

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 301 – Term 172 – Quiz 4

Name:

Student ID #:

Section #:

Question 1. Find the half-range cosine expansion of

$$f(x) = \begin{cases} 1 & 0 < x < 1/2 \\ 0 & 1/2 \leq x < 1 \end{cases}$$

Question 2. Put the following equation in self-adjoint form and find the weight function.

$$x^2 y'' + xy' + \lambda y = 0$$