

QUIZ #27, 11/29/07

MATH 54, FALL 2007

Show your work and justify your answers! Feel free to use both sides.

Name:

1. (4pts) Determine all solutions to the boundary value problem $y'' - 4y = 0$ with $y(0) = 0$ and $y(1) = 1$.
2. (6pts) (a) For which values of $a > 0$ does the boundary value problem $y'' + a^2y = 0$, $y(0) = 0$, $y(\pi) = 0$ have a solution other than $y(t) = 0$?
(b) For which values of $b > 0$ does the boundary value problem $y'' - b^2y = 0$, $y(0) = 0$, $y(\pi) = 0$ have a solution other than $y(t) = 0$?