



PARTIAL DIFFERENTIAL EQUATIONS
SPRING 2018

ASSIGNMENT 17
EXTRA PROBLEM

Exercise 1. Let $m \in \mathbb{N}_0$ and $a > 0$. Show that the only solution to the boundary value problem

$$r^2 R'' + rR' - m^2 R = 0, \quad R(0+) \text{ finite}, \quad R(a) = 0$$

is $R \equiv 0$.