

MAT 509 –Kısmi Türevli Denklemler I
[2018-19-Güz Dönemi]

HOMEWORK

(TEXT BOOK: *Partial Differential Equations: An Introduction, Walter A. Strauss, Wiley, 2007*)

Homework Set-1 (Deadline: October 02, 2018 – Tuesday, in class)

Page 5-6: Q4
Page 10: Q2, Q10
Page 24: Q1
Page 27-28: Q5, Q6
Page 31-32: Q2, Q6

Homework Set-2 (Deadline: October 18, 2018 – Tuesday, in class)

Page 38: Q9
--Prove the maximum principle
Page 46: Q6
Page 52-54: Q16

Homework Set-3 (Deadline: November 02, 2018 – Friday, in class)

Page 60: Q3
Page 70: Q1
Page 79: Q3
Page 89: Q2
Page 92: Q1, Q2

Homework Set-4 (Deadline: November 20, 2018 – Tuesday, in class)

Page 111: Q4, Q9
Page 117: Q4, Q5
Page 123: Q3
Page 134: Q5-a,b, Q7-a,d

EXERCISE

Problem 1: Let D be a bounded region in two dimensions and u be continuous on the closed set $D \cup \partial D$ with $\Delta u = f$ on D ; and $u = g$ on ∂D . **Show that** if $f(x,y) \leq 0$, then u attains its minimum on ∂D .

Page 160-161: Q5
Page 172: Q2
Page 176: Q9