Intermediate Microeconomics (Honors)

Fall 1999

Assignment 7

Due Date: November 9

Be sure to show all of your work and clearly indicate your final response to each question

1. Chapter 10, Problem 1
2. Chapter 10, Problem 2
3. Chapter 10, Problem 4
4. Chapter 10, Problem 6
5. Consider a production function of the form

\[ q = \beta_0 + \beta_1 \sqrt{KL} + \beta_2 K + \beta_3 L, \]

where \(0 \leq \beta_i \leq 1, i = 0, 1, 2, 3\).

a. If this function is to exhibit constant returns to scale (CRS), what restrictions should be placed on the parameters \(\beta_0, \beta_1, \beta_2, \beta_3\)?

b. Show that in the CRS case this function exhibits diminishing marginal productivities and that the marginal productivity functions are homogeneous of degree zero.