ECO 601
Fall 2002
Problem Set #7

DUE: Monday, November 4

1. Nicholson 11.2

2. TFUE: The production function in the above problem has no region I or region III.

3. Nicholson 11.3

4. TFUE: The production function Q=min(aK,bL) has an elasticity of substitution equal to 0, but the combination of several similar production functions with different values for a and b can yield a positive elasticity of substitution.

5. What if the production function for secondary education (E) is: $E=.5T^{.7}B^{.4}$, where T is teachers and B is buildings and materials.
a) Find the marginal product of T and the marginal product of B.
b) Does the production function exhibit diminishing marginal productivity of inputs? Explain.
c) What is the marginal rate of technical substitution for this production function? Is the function homothetic?
d) Does the production function exhibit diminishing MRTS? Explain.
e) Find the output elasticity of education with respect to teachers.
f) What returns to scale does this production function exhibit? Tell a short,short story why the production might exhibit these returns to scale.