Economics 58
Fall 2010

Problem Set # 6

Due 10/27/10

1. Text Problem 10.5.

2. Text Problem 10.8.

3. Consider the two elementary production functions:

1. Fixed proportions: $q = [Min(k, l)]^s$.
2. Perfect substitutes: $q = (k + l)^s$

a. Explain why the parameter s (> 0) measures the returns to scale in each of these production functions.

b. Calculate the total cost function for each of these production functions.

c. A total cost function is said to be "separable" if it can be written as

$$C(q, v, w) = f(q) \cdot C(1, v, w)$$

That is, scale effects can be separated from the "unit cost" function.

Are the total cost functions estimated in part b separable? Explain.

d. Explain how average and marginal cost functions can always be easily derived from separable cost functions. Make that calculation for the two cost functions in part b.