

Production Function Lab

1. Given the Cobb-Douglas Production function: $15 K^{0.4} L^{0.7}$
 - a. Enter data in Excel and plot the surface.
 - b. For a fixed value of K (choose something in the middle), compute and draw the marginal product and average product functions.
 - c. What are the returns to scale for this function?

2. Given the CES Production function: $5 [0.6 K^{-2} + 0.2 L^{-2}]^{-1/2}$
 - a. Enter data in Excel and plot the surface.
 - b. For a fixed value of K (choose something in the middle), compute and draw the marginal product and average product functions.
 - c. What are the returns to scale for this function?

3. Use the data on p. 202 to estimate the Cobb-Douglas production function. Note that you can use the log function to simplify the Cobb-Douglas function to:
$$\log(Q) = \log(b_0) + b_1 \log(K) + b_2 \log(L)$$