

Chapter 4 Practice Questions:

- 1) Suppose we know that output in the economy is given by the production function: $Y_t = A_t K_t^{1/3} L_t^{2/3}$
- 2) What is a Cobb-Douglas Production Function?
- 3) Mathematically prove CRS of a Cobb-Douglas Production Function. What is one way in which you could describe CRS non-mathematically?
- 4) Write out the production model and solve it graphically to get equilibrium values.
- 5) Use the solution to the production model and the fact that we assume perfect competition to calculate the payments to labor and capital. What in how we wrote down the production model determined these payments? What does this imply for the appropriateness of this equation given what we know to be true about the US economy payments to labor and capital in the data?
- 6) Suppose output is given by the production function: $Y = F(K,L) = \bar{A}K^{1/3}L^{2/3}$
What happens when you double L, leaving K fixed?

What if you were to quadruple L? Comment on the result.

- 7) The production model suggests that differences in capital have some explanatory power in terms of predicting output per capita across countries. How is this different from the Solow Model? Where do differences in measured levels of K across countries come from? What does the Solow model suggest might be part of the answer?