

## Exercise 2

**Problem 1:** Suppose that the production functions of sector 1 and 2 are  $Q_1 = K_1^{0.3}L_1^{0.7}$  and  $Q_2 = K_2^{0.6}L_2^{0.4}$ , respectively.

- a) Determine formally which of the two goods is capital intensive, that is, uses the higher capital/labor ratio for given relative factor price.
- b) Derive the corresponding unit cost functions and explain why unit costs equal output prices. Then use these equalities to express factor prices as functions of output prices.
- c) Using your results from b), explain factor price equalization and formally verify the Stolper-Samuelson result.