1. Suppose that the all firms in an economy has the Cobb-Douglas production technology:
2. Derive the cost function, , by solving

s.t.

1. What is the marginal cost, ?
2. What would be the price if all firms are competitive? (Hint: P=MC)
3. Does the competitive price increase or decrease with ?
4. Solve the same question assuming that the production technology is:
5. Assume that you are a manager at an intercity bus company. Each of your buses can carry 100 passengers per day, 3000 per month. The price of a bus is 3M TL (including taxes and relevant costs). The interest rate is 1% per month. The wage of a bus driver is 20K TL (including payroll taxes) . If is the number of passengers,
6. Derive the cost function of your company .
7. Find the marginal cost, .
8. What would be the price of a single passenger ticket if the transportation market is competitive? (Remark: The answer is would be too low compared to the actual prices in the market. But we did not include the cost of oil, corporate taxes, administrative costs, etc.)