

Problem Set 4

1. Suppose that a monopoly faces the following demand curve: $y = 100 - p$. The marginal cost of production is constant 2.
 - a. Compute the equilibrium price and quantity in this market!
 - b. What would be the efficient quantity produced?
 - c. Compute the dead weight loss due to the monopoly!

2. Suppose that a monopoly faces the following demand curve: $y = 100 - p/2$. The marginal cost of production $MC(y) = y/4$.
 - a. Compute the equilibrium price and quantity in this market!
 - b. Suppose that the government introduces a sale tax of £1 per unit. Compute the new equilibrium price and quantity in this market! Who pays the tax?

3. Suppose that a monopoly faces two types of consumers, A and B . The demand curve of a consumer of type A is given by $P = 10 - y$, and the demand curve of a consumer of type B is given by $P = 8 - y$. Half of the consumers is of type A . The marginal cost of production is zero. The monopoly cannot distinguish between the two types, but can offer different menus to the consumers. What is the profit maximizing menu?

4. Suppose that a monopoly faces two types of consumers, A and B . The demand curve generated by the type A consumers is given by $P = 10 - y$, and the demand curve generated by the type B consumers is given by $P = 8 - y$. The marginal cost of production is constant one. The monopoly can set different prices for different types, but cannot sell different units at different price to the same consumer. What are the optimal prices?