3 Price Discrimination

Practice Question 5 (First-degree Price Discrimination)**.** If a monopoly faces an inverse demand curve of

$$p(Q) = 150 - Q,$$

has a constant marginal and average cost of $MC = 30$, and can perfectly price discriminate among the consumers.

(a) What is its profit? What are the consumer surplus, welfare, and deadweight loss? Is the allocation Pareto efficient?

(b) How would these results change if the firm were a single-price monopoly?

(c) Explain why many firms usually do not perfectly price discriminate in reality?

Practice Question 6 (Third-degree Price Discrimination)**.** A monopoly book publisher with a constant marginal cost and average cost of $MC = 9$ sells in only two countries and faces a linear inverse demand curve of $p_1 = 6 - 0.5Q_1$ in Country 1 and $p_2 = 15 - Q_2$ in Country 2.

(a) What price does the monopoly charge in each country, how much does it sell in each, and what profit does it earn in each with a ban against shipments between the countries?

(b) Suppose now there is free trade between Country 1 and Country 2, how will the results change?

(c) How would the analysis change if $MC = 1$?

Practice Question 7 (Non-linear Pricing)**.** Suppose a monopoly is able to use nonlinear pricing in a market where the inverse demand is

$$p = 200 - Q$$

The marginal and average cost of production of the monopoly is constant and equal to 50. The monopoly wants to set two prices depending on the quantity bought by a consumer.

(a) Write the monopoly's objective in terms of the quantity sold in block 1 (Q_1) and the total quantity sold (Q_2).

(b) Determine the price p_1 of the first block and p_2 of the second block, as well as the quantity sold under the first block and quantity sold in the second block.

(c) The monopoly is considering adding a very large number of blocks. As a representative of consumers, should you oppose this idea of adding more blocks?