Practice Set 4
Monopoly & Market Efficiency

This set contains problems for your own practice. It is highly recommended to work on the problems on your own. Do not just read the provided solutions. Instead, try to solve the problems and use the solutions only when you cannot continue on your own. Reading problems that someone else has solved has the same value for your preparation like watching someone else running a marathon on TV and then expecting to be able to run it, too. If you have questions on this set, please ask your section's teaching assistant.

1. Explain how market power increases with the slope of the demand curve the firm is facing.

2. Explain whether the "same intercept – double slope" rule for the MR works when you want to derive the MR for a PC firm.

3. Explain how *lobbying* can increase the social cost of monopolies if it is used for rent-seeking.

4. Explain how *advertisement* can increase the social cost of monopolies if it is used for rent-seeking.

5. Explain how *building excess capacity* can increase the social cost of monopolies if it is used for rent-seeking.

6. Katerina is the only seller of lemonade in the nationhood. The demand for lemonade is $p = 30 - 2q$, where q are glasses of lemonade and p is the price per glass. Her marginal cost is $MC = q$ and her fixed cost is 2.
   (a) Make a table with Katerina's FC, MC, AC, TC, p and profit from 1 to 15 glasses of lemonade.
   (b) How many glasses of lemonade should Katerina produce to maximize her profit?
   (c) How much should Katerina charge per glass in order to maximize her profit?
   (d) How much is the maximum profit that Katerina will make?
   (e) How many whole glasses of lemonade would Katerina produce if she acted as a PC firm?
   (f) How much would she charge if she acted as a PC firm?
   (g) How much S-R profit would she make if she acted as a PC firm?

7. A market faces demand $p = 10 - 2Q$, while the marginal cost is $MC = 2$.
   (a) If this market is populated by a large number of identical firms, what will be the price and the total quantity?
   (b) If the market is exploited by a single firm, at what price will this firm be selling?
   (c) Calculate the DWL when the market is exploited by a single firm.

8. You are given the demand curve $p = 30 - q$. Price is equal to 20. Calculate the consumer surplus.

9. Consider the market of a PC good with a vertical market demand.
   (a) Explain the economic meaning of a vertical demand curve.
   (b) A tax per unit is imposed on the good. Explain who will end up paying the burden of the tax.

10. Calculate the sum $1 + 2 + 3 + \cdots + 98 + 99 + 100$.