EC3322
Industrial Organization I
Semester 1, 2015-2016
Tutorial #1

You will receive full credit if you present your attempt at the solution during tutorial, whether or not you have the correct answer. Also, feel free to discuss the questions and answers with other students who have not yet attended tutorial. However, I request that you do not ask former students of this module or current students who attend an earlier tutorial than you for the answers before your own tutorial has taken place.

Note: (∗) questions are questions that require more thought and effort, typically asking you to collect and to interpret real world examples of the lecture topics. As such, these questions will be worth more "participation credit."

1. (∗) Find share data for a particular market. Compute the C4 and HHI and comment.
2. The bicycle industry consists of seven firms. Firms 1, 2, 3, and 4 each have a 10% market share, and firms 5, 6, and 7 each have a 20% market share.
   (a) Calculate the CR_4 for this industry.
   (b) Calculate the HHI for this industry.

   Now suppose that firms 1 and 5 merge.

   (c) Calculate the postmerger HHI.
   (d) Calculate the change in the HHI (denoted ΔHHI) caused by the merger.
   (e) Under the 1982 US horizontal merger guidelines, a merger should not be challenged if the postmerger HHI satisfies:
      1. $HHI < 1,000$
      2. $1,000 < HHI < 1,800$ and $\Delta HHI < 100$
      3. $HHI > 1,800$ and $\Delta HHI < 50$

      Under these guidelines should this merger be challenged?
3. (Midterm 2013) Suppose you know the market shares of 3 of the 5 total firms in some industry: $s_1 = 20$, $s_2 = 20$, and $s_3 = 20$. Although you do not possess sufficient information to compute the HHI, you can find a lower and an upper bound for it. That is, based on the given information, you can find the minimum HHI possible and the maximum HHI possible. What are the lower and upper bounds?

4. (Midterm Sem 2, 2014/15) A price-taking firm and a monopolist are alike in that

   (a) price equals marginal revenue for both

   (b) both maximize profits by choosing an output where marginal revenue equals marginal cost

   (c) price exceeds marginal cost at the profit-maximizing level of output for both

   (d) both earn zero economic profits in the long run

5. (Midterm 2013) The following relationship must hold between the average cost (AC) curve and the marginal cost curve (MC):

   (a) If MC is rising, AC must be rising.

   (b) If AC is rising, MC must be less than AC.

   (c) If AC is rising, MC must be greater than AC.

   (d) If MC is rising, AC must be greater than MC.

6. (Midterm 2011) Suppose that the demand function is

$$Q = 100 - P.$$

   At what output level is the price elasticity of demand equal to -1?

7. (Midterm 2010) A perfectly-competitive firm has the long-run cost function $C(q) = 4q^2 + 196$. In the long run, it will supply a positive amount of output so long as price is greater than or equal to:

   (a) \$120

   (b) \$112

   (c) \$56

   (d) \$28

   (e) \$14

8. A market contains many identical firms, each with a cost function $C(q) = 400 + 5q + q^2$. The market demand curve is $Q = 265 - p$. Determine the long-run equilibrium price, firm output, market output, and number of firms: (p^*, q^*, Q^*, n^*).