EC3322
Industrial Organization I
Semester 2, 2014-2015
Midterm
March 5, 2015

MATRICULATION/REGISTRATION NUMBER: _____

TUTORIAL GROUP: _____

Instructions

1. Write your matriculation number and your tutorial group number (or time and day) in the space provided above RIGHT NOW. Do not write your name on the exam.
2. This exam will last 75 minutes.
3. There are a total of 7 questions on 12 pages.
4. Write your answers in the answer boxes provided for each question.
5. Include all work and derivations that you wish to be graded in the space provided after each question.
6. You MAY NOT use calculators. If you have a calculator on your desk, please remove it.

Questions 1 to 3 are multiple-choice/short-answer questions. Write your answers in the answer boxes provided.

1. (10 marks) 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

2. (10 marks) A monopoly has cost function $C(q) = q + 1$ and faces inverse demand $p = 5 - q$. Which of the following statements is *not* true at the profit-maximizing level of output:

   (a) Marginal revenue is 1.

   (b) The price elasticity of demand is $-\frac{3}{2}$.

   (c) The Lerner index is $\frac{2}{3}$.

   (d) Marginal cost is 1.

   (e) Consumer surplus is 8.

3. (10 marks) Complete the sentences with "increase" or "decrease." Suppose a firm that previously set a single price switches to third-degree price-discrimination.

   (a) The firm will _____ the price for the group of consumers with the less elastic demand.

   (b) The firm will _____ the price for the group with the more elastic demand.

For questions 4 and 5, write your *brief* and *concise* answer in the answer boxes below.

4. (20 marks) Restaurants charge lower prices for lunch than dinner. Explain how price discrimination can explain such pricing, including who you think the targeted consumer types are. Also, provide a plausible alternative explanation for such price differences that does not depend on price discrimination.

5. (20 marks) In lecture, we discussed a proposed merger between two office supply superstores, Staples and Office Depot. Recall that the three main competitors, Staples, Office Depot, and Office Max, were the supermarkets of the office supply business, supplying a vast number of products at low prices.

   Staples and Office Depot argued that the proposed merger would lead to cost savings which would ultimately result in an overall price decrease of 2.2%. First, explain on what basis could the firms argue that the proposed merger would lead to cost savings. Be specific regarding terminology and economic ideas. Second, comment on whether such cost savings could have been reasonably expected in this case.

Questions 6 and 7 are long, analytical questions. Write your answers in the answer boxes.

6. (15 marks total) An industry consists of many identical firms. Each firm's cost function is

$$C(q) = \frac{1}{8} + \frac{1}{2}q^2.$$

   (a) (5 marks) What is the market price in the long run equilibrium?

   (b) (5 marks) Suppose that $Q^* = 100$ units are sold in the long run. What is the equilibrium number of firms in the long run?

   (c) (5 marks) What is the HHI for this industry?

7. (15 marks) The amusement park Legolandia has two types of customers: *locals* and *tourists*. As seen in the table below, a tourist has a willingness to pay (WTP) of \$4 for the first ride, \$3 for the second ride, \$1 for the third ride, and 0 for any additional rides. A local has a willingness to pay of \$2 for the first ride, \$1 for the second ride, and 0 for any additional rides. Assume that there are equal numbers of tourists and locals. Note that rides can only be bought in whole numbers. The MC of providing a ride is \$1.

Tourist		Local	
Ride	WTP	Ride	WTP
1	4	1	2
2	3	2	1
3	1		

   (a) (5 marks) Suppose that Legolandia can identify customer type and practices *first-degree* price discrimination using two-part pricing. What entry fees and prices per ride maximizes profit?

   (b) (10 marks) Suppose that Legolandia cannot identify customer type and practices *second-degree* price discrimination using block pricing. What are the profit maximizing packages?