

**SPRING 2017**  
**AEM 4160: Strategic Pricing**  
**Prof. Jura Liaukonyte**

**HW1**

**Ground rules for Homework 1-5:**

1. HW is due at the beginning of class on the due date designated for each homework (see course website for the list of dates).
2. You should turn in your homework 100% typed. I realize that for some students handwriting is more convenient or efficient, especially when it comes to writing out math equations. However, you should practice typing math formulas in MS Word or other word processing software of your choice.
3. Include a title page listing your name (or names if it is a group work) and homework number.
4. Please staple your sheets. Both your TA and I will look at each homework, so we don't want to lose any of your sheets.
5. If I have specific instructions or rules relating to any individual parts within homework assignments, I will list them there.

**Ground rules for HW1:**

1. HW 1 is due on **February 14<sup>th</sup>** at the beginning of class
2. You will work individually on HW1. Homework 2 through 5 will be group work.

**PART I**

**Question 1.** After spending 10 years and \$1.5 billion, you finally have gotten Food and Drug Administration approval to sell your new patented wonder drug which reduces the ache and pain associated with aging joints. You will market this drug under the brand name *Ageless*. Market research indicates that the elasticity of demand of *Ageless* is 1.25 (at all points on the demand curve). You estimate the marginal cost of manufacturing and selling one dose of *Ageless* at \$1.

- a) What is the profit-maximizing price per dose of *Ageless*?
- b) Would you expect the elasticity of demand you face for *Ageless* to rise or fall when your patent expires? Why?

**Question 2.** Assume that a monopolist sells a product with a total cost function  $TC=400+Q^2$ . The market demand curve is given by the equation  $P=500-Q$ .

- a) Find the profit-maximizing output and price for this monopolist. Is the monopolist profitable?
- b) Calculate the price elasticity of demand at the monopolist's profit-maximizing price. Also calculate the marginal cost at the monopolist's profit-maximizing output.
- c) Calculate the Lerner Index of Market power. Verify that Lerner Index is equal to inverse price elasticity your calculated equilibrium price and quantity.

## PART II

Read carefully *The Atlantic* article about the diamond industry “Have you ever tried to sell a diamond?” and answer the following questions:

1. As you probably noted, this article was written in 1982. Your assignment is to research the industry during the period AFTER the article was written.

Write a 2-3 page summary (double spaced) of what happened to the industry from the early **1980s to today**.

- What major transformations did the industry go through?
  - What were the noteworthy events that happened in the industry within the last 30 years?
  - What happened to diamond prices?
  - Were the price changes due in part to pricing/promotion plans or subject to macroeconomic conditions, or perhaps both?
2. List and briefly evaluate the pricing strategies or major changes in diamond price that were mentioned in the article. If they were part of promotional effort you can briefly mention promotional strategies as well.

## PART III

Write a blog post. Blog assignment guidelines:

<http://courses.cit.cornell.edu/jl2545/4160/blogguide4160.htm>

Also check the blog website [www.overtcollusion.com](http://www.overtcollusion.com) to see examples of good blog posts.

**IMPORTANT:** You have to submit your blog post in two ways:

- 1) as part of your typed and printed HW1 and
- 2) emailed to your TA [ps842@cornell.edu](mailto:ps842@cornell.edu). Please make sure that the emailed post contains your name (or the names of group members).

Please pay attention to the fact that every submitted blog post should entail some hyperlinks and most really good posts have pictures or embedded videos.

- Learn how to insert a hyperlink in MS Word [here](#).
- Learn how to insert a picture in MS Word [here](#).
- Since I will be posting the selected blog posts on [www.overtcollusion.com](http://www.overtcollusion.com) and there is no easy way to embed a video in MS Word, just provide a link to the video that you would like embedded, should your post be selected to be published.

Potential topics of choice for this HW assignment:

1. Product Differentiation: perceived or real
2. Market Power
3. Market concentration and its issues related to pricing
4. Complements, substitutes
5. Elasticities: price, income, cross-price, advertising etc
6. Other topic that relates to issues we discussed in class.
7. In case you are unsure if your selected topic fits, email me and we will discuss!