Economics 121: Problem Set 4
Due: Thursday, Dec. 2 (in lecture)

True/False/Uncertain: Explain your answer.

1. Selling a product below its short-run marginal cost of production is necessarily predatory.

2. Large fixed costs and difficulty in selling off capital assets will make predation less likely.

3. Vertical mergers are total-welfare enhancing.

4. There is no difference in final market outcome between an industry structure with a single vertically integrated monopolist and a structure with an upstream monopolist facing a perfectly competitive downstream.

5. Because a horizontal merger reduces the number of firms in an industry, it raises price, thus hurting total welfare.

Multipart Questions: Answer each part of the below questions.

1. Kia Motors manufactures cars that are sold through dealers. The (daily) demand for Kia cars in a certain market is given by $D(p) = 30 – p$, and let the (constant) marginal cost of manufacturing a car be: $MC = 5$. (All prices and costs are expressed in units of thousands of dollars to make these conditions realistic.)   To begin with, assume that Kia does not own its dealers but instead sells the cars to them at a wholesale price of w.

    a) If there is a single dealer with an exclusive right to retail Kia's, find the profit-maximizing retail price it will charge, along with the quantity and the dealer's profit, given a wholesale price w per car.
    b) Now look at the manufacturer's problem: find the wholesale price that maximizes the manufacturer's profit, and then compute the corresponding quantity of Kia's, plus the profit levels of both the manufacturer and the dealer at this wholesale price.
    c) Kia considers buying the dealer. What would the equilibrium price and profit be if it did undertake both manufacture and retailing of its cars? Compare this price against your answer in (b).
    d) If, instead, there was perfect competition in retailing of Kia's, at what level would the manufacturer set its wholesale price?
    e) Find Kia's profit level at the price in (d), compute the associated profits, and compare them against profits found in (b) and (c).

2. Waffle World makes frozen waffles and sells them successfully all over the country using a secret family recipe. Recently Frenchy's Toast Company engaged in a bit of corporate espionage and stole the secret recipe. Frenchy's is now considering entering the frozen waffle market. Waffle World has threatened to take Frenchy's to court if they use the stolen recipe.

The payoffs are as follows:

	Waffle World Profits	Frenchy's Profit
F: no enter	10	0
F: enter ; W: goes to court	4	2
F: enter ; W: does not go to court	5	5

   a) Draw the extensive form of this game, in which Frenchy's first decides on entry and then Waffle World decides whether to go to court or not.
   b) Is Waffle World's threat to go to court credible?
   c) Will Frenchy's enter?

Instead imagine that Waffle Corp is considering hiring a lawyer to join their staff before seeing whether Frenchy's decides to enter or not.

The payoffs if Waffle Corp hires the lawyer are as follows:

	Waffle World Profits	Frenchy's Profit
F: no enter	6	0
F: enter ; W: goes to court	6	-1
F: enter ; W: does not go to court	3	5

   d) Give an intuition for the way in which these payoffs differ from the payoffs in the case when Waffle Corp does not higher the lawyer.
   e) Draw the new extensive form where first Waffle decides whether to hire the lawyer, after observing that choice Frenchy's decides whether to enter or not.
   f) Will Frenchy's enter the market in this case? Explain how you came to your conclusion.

3. For each one of the computer industry business practices described below, give reasons why each one may:
   > (i) realize economic efficiencies, *and*
   > (ii) harm consumers and/or competition.

   a) Personal computer software makers bundle several software applications into a "productivity suite."
   b) IBM provision of software and service to customers who buy or lease its mainframe computers.