ECO 401-002
Spring 2003
Problem Set \#7
Due: Tuesday, April 29

1. As the only owner of a satellite dish in your neighborhood, you are the monopoly supplier to anyone who wants to watch the upcoming World Wrestling Federation championship match, which is only available on pay-per-view. You decide to charge your neighbors an admission fee if they want to come over and watch the match at your house. From past experience you know that the demand schedule is as represented below. Since these people drink your beer, eat your food, and tear up your house, there are costs involved in supplying this service. Your total cost schedule is also represented below. (a) What price should you charge and what output will you produce if you want to maximize profits? (b) If you have to pay a fixed fee of $\$ 10$ to the satellite company in order to receive an unscrambled signal, would you still be willing to go ahead with this? (c) Illustrate your decision in a demand/marginal revenue/marginal cost diagram and show price, output, and profits from this venture.

| $\frac{\text { Price }}{-}$ | $\frac{\text { Quantity }}{}$ | $\frac{\text { Total Cost }}{0}$ |
| :---: | :---: | :---: |
| $\$ 10.00$ | 0 | $\$ 8.00$ |
| 9.80 | 1 | 15.00 |
| 9.60 | 2 | 21.00 |
| 9.40 | 3 | 27.50 |
| 9.20 | 4 | 34.50 |
| 9.00 | 5 | 41.80 |
| 8.80 | 6 | 49.35 |
| 8.60 | 7 | 57.00 |
| 8.40 | 8 | 65.00 |
| 8.20 | 9 | 74.00 |
| 8.00 | 10 | 84.00 |
| 7.80 | 11 | 95.00 |

2. Would you characterize the following firms as having monopoly power? Explain briefly the nature and source of their monopoly power.
a) PepsiCo and Gatorade
b) Insight Communications and HBO
c) The University of Kentucky and Wildcat basketball
3. Browning and Zupan, 11.5, p. 322.
4. Suppose that you are granted a monopoly charter by the Lexington city council to operate a golf course. You can produce any level of output that you wish at a constant marginal cost of $\$ 5$ per unit. Since you own the only golf course in town, anyone who wants to play must play at your course. All golfers are alike, and each one has an annual demand for golf that is given by $\mathrm{Q}=70-2 \mathrm{P}$, where Q refers to output and P refers to price.
a) What are the monopoly's profit-maximizing price and output? How much profit do you make off of each golfer in a year?
b) In a diagram, illustrate the deadweight loss due to this monopoly. Calculate the dollar amount of the deadweight loss.
c) Suppose that you decide to sell an annual pass that permits a golfer to pay an annual fee of A and then pay a price per round of golf of P . What should the annual fee and the price per round be, and how much profit will you make from each golfer in a year? Illustrate your answer.
