ECON 415  
Firms, Markets and Industry Structure  
First midterm: Wednesday September 27, 2006

Time: 50 minutes.  
**Instructions.** To obtain credit, you must give arguments to support your answer. The numbers in brackets at the start of each question are the numbers of points the questions are worth.

**Exercise 1 [40]:** You are a manager in a perfectly competitive market. The price in your market is $35. Your total cost curve is 

$$C(Q) = 10 + 2Q + 0.5Q^2$$

a. What level of output should you produce in the short run?

b. What price should you charge in the short run?

c. Will you make any profit in the short run?

d. What will happen in the long run?

**Exercise 2 [35]:** Assume a monopolist faces a market demand curve $P = 100 - 2Q$, and has a short-run total cost function $C = 640 + 20Q$. What is the profit-maximizing level of output? What are profits? Graph the marginal revenue, and demand curves, and show the area that represents deadweight loss on the graph.

**Exercise 3 [25]:** The widget industry is comprised of six firms of varying sizes. Firm 1 has 35 percent of the market. Firm 2 has 25 percent, and the remaining firms have 10 percent each. What is the Herfindahl-Hirshman index for the widget industry? Based on the U.S. Department of Justice merger guidelines (the department of Justice regards markets with post-Merger HHI above 1800 to be highly concentrated and, further, mergers producing an increase in the HHI of more than 50 points in highly concentrated markets post-merger potentially raise significant competitive concerns), do you think the Department of Justice would be likely to block a merger between firm 5 and 6?