A. Text and workbook

1. Text: Chapter 13; omit nothing.
2. Study guide: Chapter 13; omit nothing.
   a. NOTE: The answers given in the back of the Study Guide to the following questions are wrong either in whole or in part (thus it is left to you, at least for now, to find the right answers!): p. 130, #4 (VERY poorly worded; answer "ok"); p. 133, #15.

B. Reading(s)

   1. Can one meaningfully measure an entire economy's overall degree of monopoly in the same way that one can meaningfully measure the monopoly power that is exercised by a single firm? Justify your answer.

   2. The Widget Corp. has two divisions. One produces widgets; the other sells them to consumers. The producing division can sell some or all of what it produces to other firms which also market widgets. Would it ever make sense for the producing division in effect to sell widgets to its affiliated marketing division at a lower price than it can receive for widgets sold to outside distributors?

C. Puzzles

   1. (Continuation of problem from last week.) An isolated village's demand for bread is known to be $Q_d = 400 - 5 P$, where Q_d is the number of loaves demanded and P is price in cents per loaf. [Note: for this demand function, the marginal revenue function is $MR = 80 - .4 Q_d$; can you see how this result is obtained?] Existing technology and input prices allow a [any] bakery to produce with costs given by $C(q) = 200 + .5 q^2$, where $C(q)$ is the bakery's total cost (in cents) of producing q loaves. [Note: for this total cost function, the marginal cost function is $MC(q) = q$.] This week we don't assume that the bakery industry is perfectly competitive. To keep matters simple, we assume that it is meaningful to sell a fraction of a loaf of bread.
   a. Suppose that the village government issues a license to a single individual, allowing her to supply all of the town's bread, but restricting her to operate only a single bakery. How much bread will be produced, at what price? What is the maximum license fee that the village government could charge her for the privilege of operating this monopoly?
   b. Suppose now that the village government permits the monopolist to operate as many bakeries as she wants. How much bread will be produced, at what price? How many bakeries will she operate? Now what is the maximum license fee that the village government could charge?

   2. Widgets are produced using two inputs, A and B. The inputs must be used in fixed proportions according to the recipe: to produce 1 Widget requires both 1 A and 1 B. Input A has no use outside the industry, while input B is used so widely outside the industry that the price

of a unit of B is not influenced by variations in the output of Widgets. The price of B is $1 per unit. There are 1,000 units of input A, none of which are available at a price of less than 50 cents per unit. The demand curve for Widgets is (Quantity of Widgets) x (Price of a Widget) = $2,500, where only whole units of widgets are purchased.

    a. Suppose that the Widget industry is competitive.

        1. What will be the equilibrium price and quantity of Widgets?

        2. What will then be the equilibrium prices of factors A and B?

    b. Suppose an excise tax of 20 percent of the price to the consumer is imposed.

        1. What price will Widget producers receive?

        2. How many Widgets will be produced? What will be the price of input A? Of input B?

    c. Now suppose that the Widget industry is taken over by a monopolist whose operations will not be regulated by the government so long as he charges all consumers the same price. How will the answers to a.1 and a.2 above change?

3. (The following "facts" are only part fiction; the problem is adapted from one in the workbook which accompanies the Varian text.) In order to protect the species, the Australian authorities have prohibited the export of cockatoos. However, it is not illegal to own cockatoos in the US, where they sell for several thousands of dollars. Cockatoos are smuggled into the US concealed in suitcases. Since this is not the optimal way to transport them, many die in transit. To enforce the export prohibition, the Australian authorities search out smugglers and levy a fine (only, no jail sentence is involved) on those that they apprehend. The objective of making the export of cockatoos illegal is of course to reduce the number of cockatoos that are taken from their wild habitat. Your question: Is the policy -- of making the export of cockatoos illegal -- effective; that is, does the policy, together with its enforcement, necessarily reduce the number of cockatoos taken from the wild? Does the answer depend upon the magnitude of the fine; on anything else? Assume that cockatoo smuggling is a competitive industry and, for simplicity, that smuggled birds die of fright when discovered by the authorities. Also: neglect the existence of other countries and assume that cockatoos do not breed in captivity.

    HINT: To examine the issue using supply and demand analysis: You must clearly distinguish between the number of cockatoos taken from the wild and the number that are successfully brought to market in the US. You must also clearly distinguish between the price paid for a cockatoo in the US market and the price received per cockatoo caught by smugglers in Australia. In doing so, you will find it helpful to consider the case in which only half of the cockatoos taken from the wild make it to the US market.