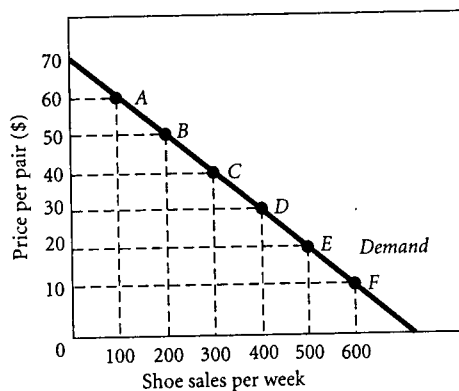


PROBLEM SET

1. Illustrate the following with supply and demand curves:
 - a. The economy was doing very well in 2000. Income was rising and the stock market hit new record highs. As a result, the price of housing rose.
 - b. In 1996, several cows in Great Britain came down with "mad cow disease." As a result, the countries of the European Union banned the import of British beef. The result was higher beef prices in Continental Europe.
 - c. In 2001, a survey of plant stores indicated that the demand for houseplants was rising sharply. At the same time, dozens of low-cost producers started growing plants for sale. The net result was a decline in the average price of houseplants.
 - d. In November of 1999, Picasso's painting "Seated Woman in a Garden," sold for \$49.5 million, the second highest price ever paid for a Picasso.
 - e. In 2000, cattle were selling for 69 cents a pound, up from 61 cents a year ago. This was despite the fact that supply increased over the year.
2. When excess demand exists for tickets to a major sporting event or a concert, profit opportunities exist for scalpers. Explain briefly using supply and demand curves to illustrate. Some argue that scalpers work to the advantage of everyone and are "efficient." Do you agree or disagree? Explain briefly.
3. In an effort to "support" the price of some agricultural goods, the Department of Agriculture pays farmers a subsidy in cash for every acre that they leave *unplanted*. The Agriculture Department argues that the subsidy increases the "cost" of planting and that it will reduce supply and increase the price of competitively produced agricultural goods. Critics argue that because the subsidy is a payment to farmers, it will reduce costs and lead to lower prices. Which argument is correct? Explain.
4. Illustrate the following with supply and/or demand curves:
 - a. The federal government "supports" the price of wheat by paying farmers not to plant wheat on some of their land.
 - b. The impact of an increase in the price of chicken on the price of hamburger.
 - c. Incomes rise, shifting the demand for gasoline. Crude oil prices rise, shifting the supply of gasoline. At the new equilibrium, the quantity of gasoline sold is less than it was before. (Crude oil is used to produce gasoline.)
5. "The rent for apartments in New York City has been rising sharply. Demand for apartments in New York City has been rising sharply as well. This is hard to explain because the law of demand says that higher prices should lead to lower demand." Do you agree or disagree? Explain your answer.
6. Illustrate the following with supply and/or demand curves:
 - a. A situation of excess labor supply (unemployment) caused by a "minimum wage" law.
 - b. The effect of a sharp increase in heating oil prices on the demand for insulation material.
7. Suppose that the world price of oil is \$16 per barrel, and suppose that the United States can buy all the oil it wants at this price. Suppose also that the demand and supply schedules for oil in the United States are as follows:

Price (\$ Per Barrel)	U.S. Quantity Demanded	U.S. Quantity Supplied
14	16	4
16	15	6
18	14	8
20	13	10
22	12	12

- a. On graph paper, draw the supply and demand curves for the United States.
 - b. With free trade in oil, what price will Americans pay for their oil? What quantity will Americans buy? How much of this will be supplied by American producers? How much will be imported? Illustrate total imports on your graph of the U.S. oil market.
 - c. Suppose the United States imposes a tax of \$4 per barrel on imported oil. What quantity would Americans buy? How much of this would be supplied by American producers? How much would be imported? How much tax would the government collect?
 - d. Briefly summarize the impact of an oil-import tax by explaining who is helped and who is hurt among the following groups: domestic oil consumers, domestic oil producers, foreign oil producers, and the U.S. government.
8. Use the data in the preceding problem to answer the following questions. Now suppose that the United States allows no oil imports.
- a. What is the equilibrium price and quantity for oil in the United States?
 - b. If the United States imposed a price ceiling of \$18 per barrel on the oil market, would there be an excess supply or an excess demand for oil? How much?
 - c. Under the price ceiling, quantity supplied and quantity demanded differ. Which of the two will determine how much oil is purchased? Briefly explain why.
9. A sporting goods store has estimated the demand curve for Brand A running shoes as a function of price. Use the following diagram to answer the questions that follow.



- a. Calculate demand elasticity using the midpoint formula between points A and B, between points C and D, and between points E and F.
- b. If the store currently charges a price of \$50, then increases this price to \$60, what happens to total revenue from shoe sales (calculate $P \times Q$ before and after the price change)? Repeat the exercise for initial prices being decreased to \$40 and \$20, respectively.
- c. Explain why the answers to a. can be used to predict the answers to b.
10. Taxicab fares in most cities are regulated. Several years ago, taxicab drivers in Boston obtained permission to raise their fares 10 percent, and they anticipated that revenues would increase by about 10 percent as a result. They were disappointed, however. When the commissioner granted the 10 percent increase, revenues increased by only about 5 percent. What can you infer about the elasticity of demand for taxicab rides? What were taxicab drivers assuming about the elasticity of demand?
11. By using the midpoint formula, calculate elasticity for each of the following changes in demand by a household:

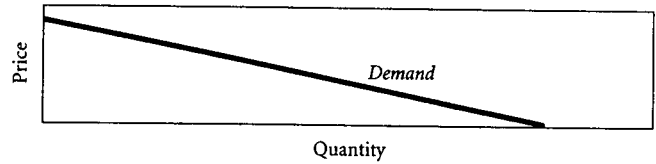
	P_1	P_2	Q_1	Q_2
Demand for:				
a. Long-distance telephone service	\$.25 per minute	\$.15 per minute	300 min. per month	400 min. per month
b. Orange juice	1.49 per quart	1.89 per quart	14 qt per month	12 qt per month
c. Big Macs	2.89	1.00	3 per week	6 per week
d. Cooked shrimp	9.00 per pound	12.00 per pound	2 lb per month	1.5 lb per month

12. Fill in the missing amounts in the following table:

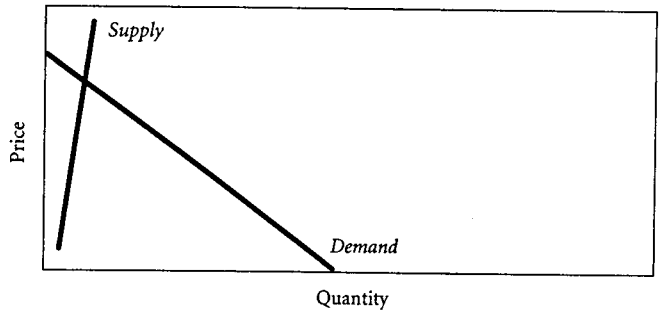
	% Change in Price	% Change in Quantity Demanded	Elasticity
Demand for Ben & Jerry's Ice Cream	+10%	-12%	a.
Demand for beer at San Francisco 49ers football games	-20%	b.	-.5
Demand for Broadway theater tickets in New York	c.	-15%	-1.0
Supply of chickens	+10%	d.	+1.2
Supply of beef cattle	-15%	-10%	e.

13. Use the table in the preceding problem to defend your answers to the following questions:
- a. Would you recommend that Ben & Jerry's move forward with a plan to raise prices if the company's only goal is to increase revenues?

- b. Would you recommend that beer stands cut prices to increase revenues at 49ers games next year?
- *14. Studies have fixed the short-run price elasticity of demand for gasoline at the pump at -0.20 . Suppose that international hostilities lead to a sudden cutoff of crude oil supplies. As a result, U.S. supplies of refined gasoline drop 10 percent.
- a. If gasoline was selling for \$1.40 per gallon before the cutoff, how much of a price increase would you expect to see in the coming months?
- b. Suppose that the government imposes a price ceiling on gas at \$1.40 per gallon. How would the relationship between consumers and gas station owners change?
- *15. For each of the following, say whether you agree or disagree and explain your answer.
- a. The demand curve pictured next is elastic.



- b. If supply were to increase somewhat in the following diagram, prices would fall and firms would earn less revenue.



16. The box on page 85 describes the war on drugs and the potential impacts on the supply of and demand for cocaine. Suppose that the United States government simultaneously legalized drugs and launched a highly successful antidrug advertising campaign. Draw a supply and demand diagram to illustrate the effects of such changes on the price of cocaine. Proponents of legalization argue that it would reduce the crime rate. What links are likely to be between the price of drugs and the crime rate? Opponents of legalization argue that the resulting expansion of supply and decline in price would cause the quantity demanded to increase as more people become addicted. Show on a supply and demand diagram what would happen if supply shifted to the right, but the advertising campaign failed to shift demand.

*Note: Problems marked with an asterisk are more challenging.

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