Name _____

Date _____

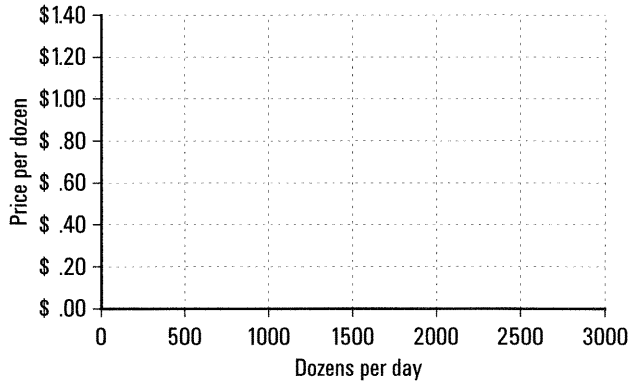
ECONOMIC SKILLS LAB
PLOTTING SUPPLY CURVES

Examine the two supply schedules that follow and plot the supply curves. Then answer the questions that follow.

Supply Schedule for Tortillas

Price	Quantity Supplied (dozen per day)
$.60	500
$.80	1,500
$1.00	2,000
$1.20	2,500
$1.40	3,000

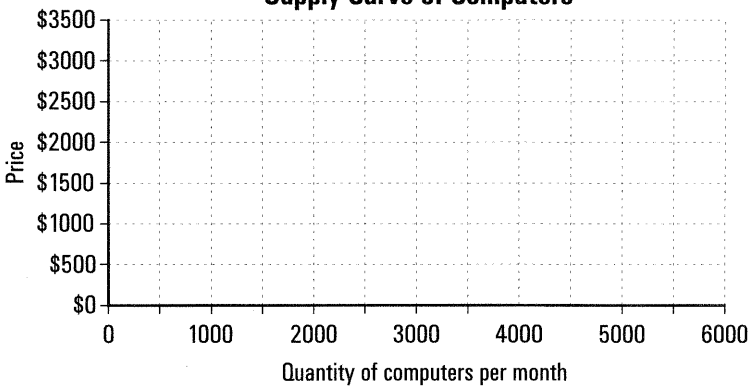
Supply Curve of Tortillas



Supply Schedule for Computers

Price	Quantity Supplied (per month)
$1,000	1,000
$1,500	2,500
$2,000	3,500
$2,500	4,000
$3,000	4,500
$3,500	5,000

Supply Curve of Computers



Questions for Understanding

1. If the price of tortillas is $1.20 per dozen, how many dozen will suppliers offer for sale? _____
2. If the price of tortillas is $.80 per dozen, how many dozen will suppliers offer for sale? _____
3. If the quantity of computers offered for sale is 2,500, what is the price per computer? _____
4. If the quantity of computers offered for sale is 5,000, what is the price per computer? _____
5. How many computers will suppliers offer for sale at $1,000? _____
6. How many computers will suppliers offer for sale at $3,500? _____
7. What effect does the price seem to have on the quantity suppliers offer for sale?

   _____
8. Calculate total revenue (price x quantity)
   a. if the price of tortillas is $1.00 each: _____
   b. if 1,000 computers are sold each month: _____
   c. if the price of computers is $2,500 each: _____

Name _____ Date _____

ECONOMIC SKILLS LAB

A LABOR OF SUPPLY—APPLYING A CONCEPT

To understand supply better, think of your labor as time you supply working. Then suppose that after completing this course, you decide to supply tutoring services to other economics students. Estimate in the following chart how many hours of your time you might supply each week at each possible hourly wage.

If I earned this much per hour:	I would be willing to work this many hours each week:
$0.00	
$2.00	
$4.00	
$6.00	
$8.00	
$10.00	
$12.00	

Answer each of the following questions:

1. Is there an opportunity cost of using your time to tutor? Explain.

_____

_____

2. Your marginal cost is the cost of using one more hour to supply tutoring services. Would the marginal cost of your time increase if you spent more hours during the week tutoring? For example, when you are not tutoring, your marginal cost is the cost of spending your first hour doing so. But when you already are providing eight hours of tutoring service per week, your marginal cost is the cost of spending your ninth hour doing so. Does your marginal cost rise as you spend more hours supplying tutoring services? Explain.

_____

_____

3. Do the numbers you have provided illustrate the price effect as it relates to your supply of labor? Explain why or why not.

_____

_____

_____

4. Is there a connection between your marginal cost, the number of hours you are willing to supply, and the amount you earn per hour? Explain.

_____

_____

_____

Name _____ Date _____

ECONOMIC SKILLS LAB

THE AMAZING TORTILLA—INTERPRETING DATA

When The Amazing Tortilla Company first opened, its owner hoped to sell about 1,000 dozen tortillas daily. To produce this quantity, the owner rented a building and purchased the needed equipment.

The owner wasn't sure if people would buy the tortillas, so the business was risky. Fortunately, customers loved the fresh taste of homemade corn tortillas. The business sold all it could make, so it continually expanded its daily production.

At first the business could increase production without raising its marginal cost of $.50 a dozen. (Marginal cost is the cost of producing each *additional* dozen.)

As production continued to expand, however, the owner had to work the equipment harder and longer each day. This caused more breakdowns and led to additional repair expenses. Hiring more workers also began to crowd the limited equipment. And the owner had to spend even more time at the business making sure that everything worked properly and that orders were shipped on schedule. As a result, the company's marginal cost of tortillas began to rise as daily production increased. The table shows the owner's estimate of marginal cost.

Marginal Cost of Producing a Dozen Tortillas at the Amazing Tortilla Company

Dozens per day	Marginal cost
up to 500	$0.50
501 to 1,000	$0.50
1,001 to 1,500	$0.75
1,501 to 2,000	$0.75
2,001 to 2,500	$1.00
2,501 to 3,000	$1.00

Answer each of the following questions:

1. Suppose the business could charge no more than $0.60 per dozen. How many tortillas do you think the business would want to produce each day at that price? Why?

_____

_____

_____

2. If the price increased from $0.60 per dozen to $0.80 per dozen, would the business want to sell more tortillas each day? Why?

_____

_____

_____

3. Suppose the business could charge no more than $0.40 per dozen for its tortillas. What do you think would happen? Why?

_____

_____

4. Do the decisions in questions 1-3 illustrate the price effect or a change in supply? Explain.

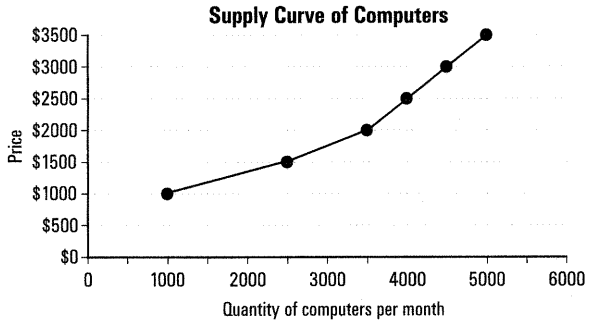
_____

Name _____ Date _____

ECONOMIC SKILLS LAB

TABLE TALK—INTERPRETING DATA

The following graph presents the monthly supply of computers.



1. Use the graph above to complete the first two columns of the following table.

Monthly Supply of Computers		
Price per Computer	Quantity per Month	New Quantity per Month
$1,000	1,000	2,000

2. Assume that 1,000 more computers are supplied at each and every price. Complete the third column of the table and use the information to plot the new supply curve on the graph.
   a. Suppose the price of computers had been $2,500 before the supply curve shifted. How many computers were supplied at that price?_____
   b. Suppose the price of computers is $2,000 after the supply curve shifts. How many computers are supplied at this lower price?_____
   c. More computers are produced and sold at the lower price than at the higher price. Does this mean the price effect doesn't apply to the supply of computers? Explain.

3. Briefly describe one or two factors that could cause the supply curve to shift as shown in the graph above.

Name _____ Date _____

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Being Resourceful

What kinds of things do you take for granted? One of them is probably hot water. When you turn on the hot water tap, you expect water to come out *hot*. But it does so only because of something else you take for granted: energy. The hot water heater in your house or apartment uses either electricity or natural gas to generate heat.

Let's consider natural gas. We may take it for granted, but many people and businesses are working hard to supply it for us. They also are continually looking for better, less costly ways of producing and distributing natural gas.

Energy companies have long used sound waves to study the underground structure of the earth. With computers, however, they can now use these sound waves to construct three-dimensional pictures of the underground material. The pictures provide much more information about where and how to drill for natural gas.

As a result, companies can avoid dry wells and can extract more gas from the successful wells they drill. These changes, in turn, reduce the marginal cost of producing natural gas.

Answer each of the following questions:

1. Does the article illustrate the price effect on supply or a change (shift) in supply? Explain.

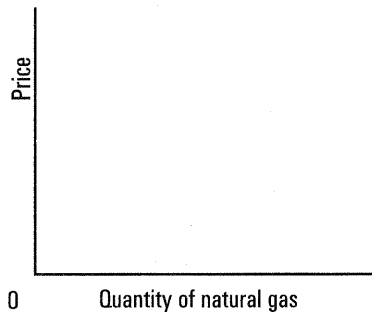
_____

_____

_____

_____

2. Construct a graph of supply to illustrate your answer.



3. By developing and using new technologies to find and extract natural gas, energy companies can increase the quantity of so-called proved reserves. Proved reserves of natural gas are the estimated quantities that companies can profitably extract at current prices using current technologies. Would an increase in proved reserves of natural gas mean that we have increased the quantity of our scarce resources? Explain.

_____

_____

_____

_____

_____

_____

_____

Name _____ Date _____

Junior Achievement Inc. **The Economic News** Circulation 500,000

Supply of Dough

What does a 38-year-old woman do after spending nearly 20 years raising a family? In the case of Anne Beiler, the answer was simple: start a pretzel business.

Anne Beiler had a sharp eye for business opportunities. In the late 1980s she noticed the growing popularity of big, hand-rolled pretzels. So she borrowed money from her father and opened Auntie Anne's, Inc., a pretzel store.

Success didn't come easily, however. At first her recipe produced pretzels that weren't very tasty, so customers weren't buying them. But "Auntie" Anne did not give up. Instead, she worked on her recipe until she produced pretzels customers liked. Her business became so successful that Anne began selling franchises to other people. Soon, Auntie Anne's shops were rising around the country like pretzels in an oven. In 1995 the business was listed by *Inc.* magazine among the 500 most successful small businesses in the United States, and she has been featured on the weekly PBS television series, *Small Business 2000*.

Source: Marc Ballon, "Pretzel Queen," *Forbes*, Mar. 13, 1995 and www.sb2000.com, Mar. 2, 2000.

Questions for Understanding

1. Does the story of Auntie Anne's pretzels illustrate movement along a supply curve or a shift in the supply curve? Use a simple graph of supply to illustrate your answer.

2. How does the story illustrate a connection between incentives and entrepreneurship?

3. Does the story illustrate a connection between incentives and supply? Explain.

4. Besides introducing new products, in what other ways might entrepreneurs affect the supply of particular products?

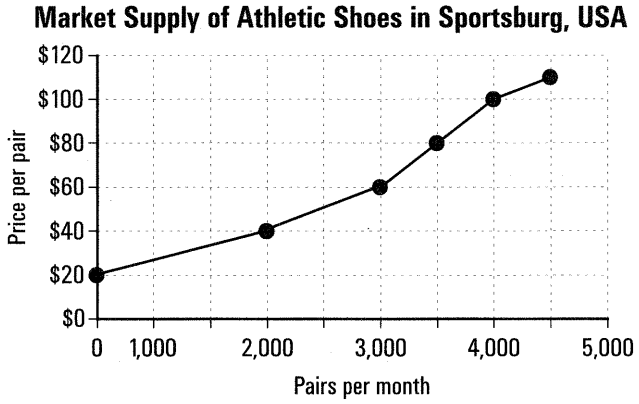
Name _____ Date _____

REVIEWING MAIN IDEAS

Fill in the blanks and answer the following questions:

Supply is the various amounts of something a producer is willing and able to _____ different possible prices. At higher prices, producers usually offer _____ (more, less) than at lower prices. Economists call this relationship between the price and amount produced the _____. It occurs because a producer's marginal cost usually increases at higher rates of production.

When all producers' supplies are added together, the result is _____. The following graph shows the market supply of athletic shoes in Sportsburg, USA.



At a price of $60 per pair, producers will want to sell _____ pairs per month in Sportsburg, USA. At a price of _____ they will want to sell 4,500 pairs per month. But at a price of $20 per pair, they will not want to sell any pairs. This occurs because a price of $20 a pair does not cover the producers' _____ _____ of producing the shoes.

Although the price effect applies to nearly all products, it's weaker for some and stronger for others. To measure the strength of the price effect on supply, economists use a concept known as the price _____ of supply. When producers can quickly and easily change the amount of resources they use after a price change, supply is usually _____ (elastic, inelastic). In contrast, when it is costly and time consuming for producers to change the amount of resources they use, supply usually is _____ (elastic, inelastic).

Movement along a _____ refers to the price effect. But a change in supply occurs only when producers want to sell a different quantity at each and every price. One factor that can change supply is a change in an item's marginal cost of production. If marginal cost falls, for instance, the supply curve will shift to the (right, left) _____ . Supply also changes when the number of sellers or producers changes. If the number of sellers declines, the supply curve will shift to the (right, left) _____. Still another factor that can cause supply to change is a change in producers' _____.

Name _____ Date _____

CHAPTER 4 REVIEW

Matching Questions: Match each term in Column A with its definition in Column B.

Column A	Column B
___ 1. marginal cost	a. Exists when the price effect is substantial.
___ 2. supply	b. Business people bear this when producing things we want.
___ 3. elastic supply	c. Usually rises as the rate of production increases.
___ 4. market supply	d. People want to buy more of a product when its price rises.
___ 5. decrease in supply	e. The various amounts of something a producer is willing and able to sell at different possible prices.
___ 6. price effect	f. Producers want to sell more at higher prices than at lower prices.
___ 7. expectations of higher future prices for a product	g. Causes the supply curve to shift to the right.
___ 8. more efficient equipment	h. Exists when the price effect is small.
___ 9. opportunity cost	i. People want to sell less of a product at all possible prices.
___ 10. inelastic supply	j. The sum of all producers' supplies in a given market.
	k. Can cause today's supply curve to shift to the left.

Multiple Choice: In the space provided write the letter of the item that best completes the statement.

___ 1. When something is produced, there is always
   a. a buyer.
   b. an opportunity cost.
   c. an elastic supply.
   d. a profit.

___ 2. Producers usually sell more at higher prices than at lower prices because
   a. their marginal costs usually drop as production increases.
   b. they don't have to worry about marginal production costs.
   c. their marginal costs usually rise as they increase production.
   d. they want the excess profit that comes from producing additional quantities at lower costs.

___ 3. Company A can produce a product at a constant marginal cost. This means that
   a. the company's total cost does not rise as it increases production.
   b. the company's total cost rises by the same amount every time it increases production by one unit.
   c. the company can earn a profit no matter what price it charges.
   d. none of the above.

Name _____ Date _____

Questions 4-6 are based on the following table, which assumes that there are three businesses in the ice cream market.

Daily Supply of Ice Cream
(in gallons)

Price per Gallon	Business A	Business B	Business C	Market Supply
$6	10	6	8	24
$5	9	5	6	20
$4	7	4	5	___
$3	5	3	4	12
$2	2	2	1	5
$1	1	1	1	3

___ 4. In the last column the amount supplied by the market at a price of $4 is missing. The missing quantity is
   a. 19
   b. 15
   c. 10
   d. none of the above.

___ 5. Business A's supply of ice cream
   a. is 10 gallons per day.
   b. is shown by the entire column of numbers for Business A.
   c. depends on the price the business receives for its ice cream.
   d. cannot be determined from the information given.

___ 6. Suppose the costs of milk and other ingredients of ice cream rise sharply and the marginal cost increases. As a result,
   a. each business would want to sell a smaller quantity at every price shown, so the market supply would shift to the left.
   b. each business would want to sell a larger quantity at every price shown, so the market supply would shift to the right.
   c. each business would want to sell more ice cream to maintain its profit.
   d. the market supply would remain unchanged.

___ 7. If the price of beef rises and remains at the higher level, then over time the supply of beef
   a. becomes more inelastic because producers get used to the higher price.
   b. shifts to the left.
   c. becomes more elastic because ranchers have more time to bring resources into cattle production.
   d. remains unchanged.

___ 8. Which of the following would not shift the supply curve of car-washing services to the right?
   a. Businesses introduce more efficient washing and drying equipment.
   b. Workers at car washes become able to wash more cars per hour than before.
   c. The price of water goes up.
   d. The number of car-washing businesses increases.

___ 9. A supply curve shows that in a market economy consumers get more of a product by
   a. paying lower prices until producers give them more of what they want.
   b. having government force businesses to produce more.
   c. writing letters to convince businesses to increase production.
   d. offering producers more money in exchange for the product.

___ 10. If bad weather destroys much of the Halloween pumpkin crop, then
   a. the price effect will cause growers to sell fewer pumpkins at lower prices.
   b. growers will offer fewer pumpkins at each and every price.
   c. both of the above.
   d. none of the above.

Name _____ Date _____

Questions for Economic Reasoning and Discussion (Write answers on a separate sheet of notebook paper.)

1. A higher price of peanut butter increases the amount produced, but it does not increase the supply of peanut butter. Explain how this is possible.

2. California is the nation's No. 2 cotton producer after Texas. In 1995 California farmers increased the number of acres planted in cotton and produced more cotton. One reason cited by farmers was the price of cotton, which was nearly 30 percent higher than a few years before. Indeed, cotton prices had risen from 58 cents per pound in 1993 to 80 cents per pound and higher in 1995.

   a. Why would a higher price result in more cotton production?

   While California cotton farmers were enjoying higher prices for their crops, they also were making changes in their farming methods. For years they had fought what seemed like a losing battle to the pink bollworm and the white fly. But farmers learned to outsmart the pests by changing the techniques they used to grow cotton and by shortening the growing season. The new approach involves heavier and more precise use of water and chemicals to shorten the growing season from nine to five months. Then, after the growing season, farmers spray and plow the cotton plants under the ground to take away the insects' food and habitat. Because of the shorter season, farmers actually use less water and fewer chemicals than before.

   b. Would these changes affect the supply of cotton on California farms? Explain. Use a graph of supply to illustrate your answer.

   As California cotton farmers were increasing production, farmers elsewhere in the world were having problems growing cotton. In Mississippi the tobacco budworm had chewed up half a million acres of cotton, while cotton farmers in Texas were coping with a drought. Meanwhile, cotton growers in India, China, and Pakistan were being hurt by bad weather and insects.

   c. Explain how these factors would affect the world supply of cotton. Illustrate your answer graphically.

3. Natural gas prices have fallen since the 1980s, yet producers are selling more gas. Does this contradict the price effect? Why or why not?

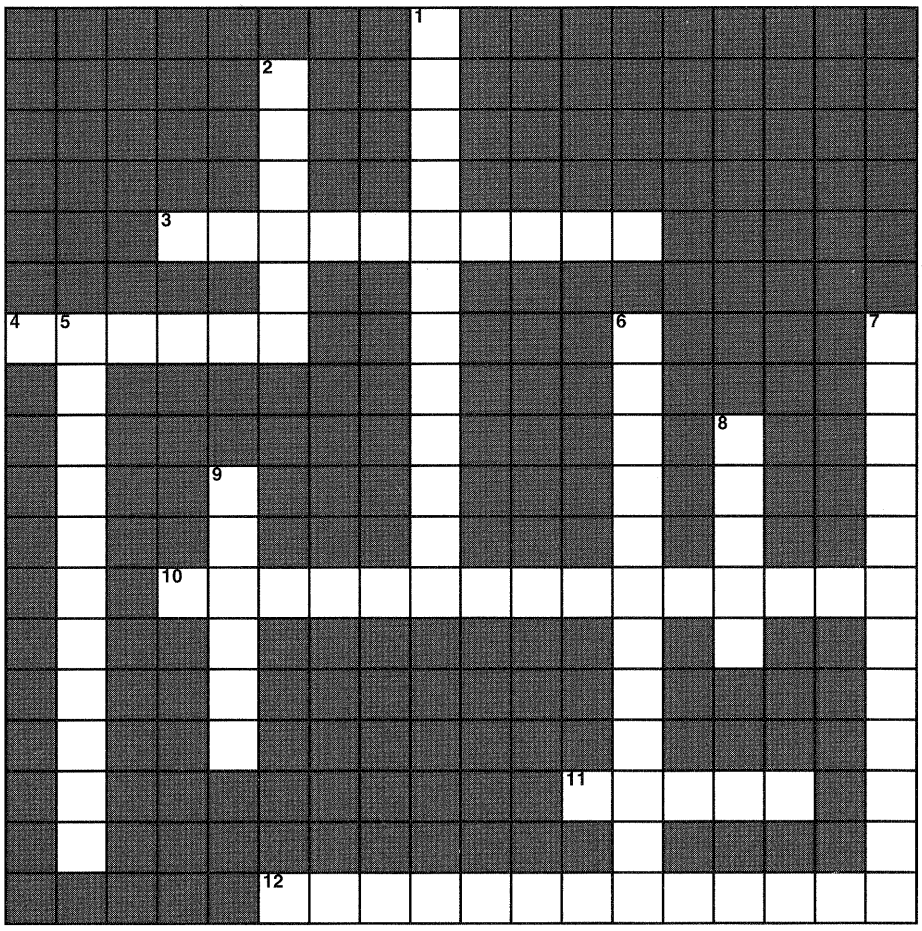
4. In 1982 and 1991 incomes leveled off and job opportunities were scarce. At both times the number of people deciding to go to college increased. Why might difficult times cause the number of students at colleges to increase? (Hint: What happens to the opportunity cost of going to college during a recession?)

5. Brazil and Colombia are major suppliers of the world's coffee beans. In 1999 severe drought hurt many of Brazil's and Colombia's coffee plants and reduced their ability to supply coffee. Then, late in 1999, heavy rains started. Not long afterward, coffee traders announced that despite erratic conditions, the coffee supply would most likely decrease about 10%.

   Did the bad weather in Brazil and Colombia cause a change in the world supply of coffee?

Name _____ Date _____

ECONHUNT



Across Clues

3. The measure of the impact of price on supply.
4. Supply curves slope _____ from left to right.
10. The best alternative given up when making a choice.
11. Reduces the cost of exchange.
12. What happens when new businesses enter a market (three words).

Down Clues

1. Additional cost per unit.
2. The various amounts you're ready to buy at different prices.
5. When people buy less of something at higher prices than they do at lower prices.
6. What you believe will happen.
7. The amounts all producers will offer for sale at different prices.
8. What consumers pay.
9. The amounts producers will sell at different prices.