

Q1. Sarah likes to buy CDs of her favorite music artists. The Marginal Benefit she acquires from every additional purchase is listed below. Suppose the price of each CD is \$14.

| # of CDs | Marginal Benefit | Marginal Cost | Net Benefit |
|----------|------------------|---------------|-------------|
| 1 | 30 | | |
| 2 | 25 | | |
| 3 | 18 | | |
| 4 | 10 | | |
| 5 | 5 | | |

- Complete the table.
- Sketch MR and MC curves.
- Indicate on your diagram at what point Sarah attains efficiency. Shade the area of Net Benefit she gains.

Q2. Answer the following questions regarding Marginal Benefit and Marginal Cost:

- The price of a ticket to a concert is \$50 and your marginal benefit of seeing the concert is \$100. Would you see the concert?
Suppose that the price of tickets increases to \$105. Would you see the concert?
- Suppose you own three pairs of sneakers and the price of sneakers are \$75. Your marginal benefit is \$50 for the third pair. Would you buy a fourth pair of sneakers?
- If your marginal benefit of a given good increases as you consume more of the good, then you will always continue to consume more of this good.

Q3. Consider a simple economy producing two goods: cars and milk. The following table gives several points on this economy's production possibilities frontier.

| Bundles | Cars (1000's/year) | Milk (1000's of gallons/year) |
|---------|--------------------|-------------------------------|
| A | 0 | 60 |
| B | 1 | 50 |
| C | 2 | 30 |
| D | 3 | 0 |

- Sketch the production possibilities frontier. What does the shape imply about the opportunity cost of producing cars?
- Calculate the opportunity costs of producing cars.
- The synthetic production of Bovine Growth Hormone (BGH) allows dairy farmers to get twice as much gallons of milk from each cow. In terms of this production possibility frontier, this means that this economy can now produce twice as much gallons of milk at each level of car output. Sketch a graph and explain carefully what implication this has on the production of cars and production of milk.

Q4. A team consisting of three people is working on a big project, which involves manual entry of data in a computer, with subsequent processing of these data and making a poster presentation.

Naturally, each member of the team has different abilities in performing either task. Adam can make 1 poster or 1400 data entries in a day. Becky can make 2 posters or 1200 data entries in a day. Cliff can make 3 posters or 900 entries in a day.

- Originally, the entire team starts with just entering data. How many entries will be made in a day?
- As the time comes to start making posters, you decide to assign one member of the team to this task. Whom would you choose? Explain why?
- Based on your decision in part (b), what is the opportunity cost of each poster made?

Q5. Bingo Land is known for the production of cupcakes and robots. The following is a production possibilities schedule for Bingo Land

| Bundle | Cupcakes | Robots |
|--------|----------|--------|
| A | 0 | 30 |
| B | 2 | 28 |
| C | 6 | 26 |
| D | 10 | 22 |
| E | 14 | 18 |
| F | 18 | 14 |
| G | 22 | 10 |
| H | 26 | 6 |
| I | 28 | 2 |
| J | 30 | 0 |

- Sketch the production possibilities frontier.
- Use point K to indicate an inefficient bundle on your graph.
- Use point L to indicate an unattainable bundle on your graph.

Q6. Plot the following combinations of bats and rackets produced by the Athletic Country.

| Combinations | Bats | Rackets |
|--------------|------|---------|
| A | 0 | 420 |
| B | 100 | 400 |
| C | 200 | 360 |
| D | 300 | 300 |
| E | 400 | 200 |
| F | 500 | 0 |

- If Athletic Country currently produces 100 bats and 400 rackets, what is the opportunity cost of an additional 100 bats?
- If Athletic Country currently produces 300 bats and 300 rackets, what is the opportunity cost of an additional 100 bats?

- c. Why does the additional production of 100 bats in (b) cause a greater tradeoff (meaning greater opportunity cost) than the additional production of 100 bats in (a)?
- d. Is the production of 200 bats and 200 rackets efficient? Explain.

Q7. Suppose that Austria and Belgium are producing only steel and brooms. Both countries face constant opportunity cost. Their current production bundle is shown in the table below:

| Goods | Austria | Belgium |
|--------|---------|---------|
| Steel | 3 | 8 |
| Brooms | 2 | 1 |

Which country has comparative advantage in the production of brooms? Which country has comparative advantage in the production of steel?

Q8. Illustrate using a graph (and include a brief explanation) of what would happen to the demand &/or supply curve in each of the following situations.

- a) Beef supplies are sharply reduced because of drought in the beef-raising states, and consumers turn to lamb as a substitute for beef. Illustrate this change in the beef market in terms of supply and demand.
- b) In December, the demand for Christmas trees increases. What happens to the equilibrium price and quantity?
- c) Suppose there is an announcement that chocolate causes cancer. What will happen in the market of chocolate? Assume the market is initially at equilibrium.
- d) Suppose the price of natural gas increases. What effect will this have on the market for petroleum?
- e) Company A makes olive oil shampoo. Suppose that the company invents a better machine for combining ingredients together to make the olive oil shampoo. What will happen to their market for olive oil shampoo? Assume the market is initially at equilibrium.
- f) Suppose income of the general population increases. If bus rides are considered an inferior good, what will be the effect on the market for bus rides? Assume the market is initially at equilibrium.
- g) The price of computer memory chips increases. What would we expect to see happen to the demand for computers?
- h) Wages of bus drivers increases. At the same time, income of the consumers in general increases. What will happen in the market of bus rides if bus rides are considered inferior goods? Assume the market is initially at equilibrium.
- i) As a result of the simultaneous increase in the price of tea and a drop in the cost of production of coffee, what effect do we expect will occur in the market for coffee? Assume the market is initially at equilibrium.
- j) Wages of workers who pick coffee rises. At the same time, the price of Coffee Mate (powdered milk for coffee) decreases. What effect will this have in the market for coffee? Assume the market is initially at equilibrium.

Q9. Consider a market for gasoline. Suppose in Period 1, the equilibrium price and equilibrium quantity was \$2.00 per gallon and 5.5 million gallons per week, respectively. In Period 2, the government set a price ceiling which was \$0.50 per gallon different from the price at Period 1. Illustrate the effect of this price control in a diagram. Explain the effects of the action on the market of gasoline.

Q10. Case Study:

The economic problem of the American farmer has been longstanding. Because of technological advances, the supply of agricultural products has increased greatly. But the demand for agricultural products has increased much less. The result is that agricultural prices have been falling. These falling prices have caused the profits of farmers to fall. The market is sending the farmer a signal. It is telling him or her to leave farming and do something else. What is the farmer's sin? It is not that the farmer has been inefficient or has made bad business decisions. The problem is that the farmer is too good. Farmers are able to produce more food than consumers want to buy at prices that will allow the farmer to make a profit. To farmers and others, this seems unfair. Because of this sense of inequity, or because of political pressure from farm groups, the government has had programs to aid farmers since the mid-1930s. One of these, called the price support program, is an example of a price floor. Initially the price of wheat was \$2.00 per bushel. Due to this program, the farmers are able to receive an additional \$2.00 per bushel. Illustrate this effect in a diagram.