

Problem Set

Problem 1

Jamal has a flexible summer job. He can work every day but is allowed to take a day off anytime he wants. His friend Don suggests they go to the amusement park on Tuesday. The admission charge for the park is \$15 per person, and it will cost them \$5 each for gasoline and parking. Jamal loves amusement parks and a day at the park is worth \$45 to him. However, Jamal also enjoys his job so much that he would actually be willing to pay \$10 per day to do it.

- If Jamal earns \$10 if he works, should he go to the amusement park?
- If Jamal earns \$15 . . . ?
- If Jamal earns \$20 . . . ?

Problem 2

The meal plan at University A lets students eat as much as they like for a fixed fee of \$500 per semester. The average student there eats 250 lb of food per semester. University B charges students \$500 for a book of meal tickets that entitles the student to eat 250 lb of food per semester. If the student eats more than 250 lb, he or she pays extra; if the student eats less, he or she gets a refund. If students are rational, at which university will average food consumption be higher?

Problem 3

You are planning a 1000-mile trip to Florida. Except for cost, you are indifferent between driving and taking the bus. Bus fare is \$260. The costs of operating your car during a typical 10,000-mile driving year are as follows:

| | |
|------------------------|-------------|
| Insurance | \$1000 |
| Interest | 2000 |
| Fuel & oil | 1200 |
| Tires | 200 |
| License & registration | 50 |
| Maintenance | <u>1100</u> |
| Total | \$5550 |

Problem 4

Dana has purchased a \$40 ticket to a rock concert. On the day of the concert she is invited to a welcome-home party for a friend returning from abroad. She cannot attend both the concert and the party. If she had known about the party before buying the ticket, she would have chosen the party over the concert. *True or false:* It follows that if she is rational, she will go to the party anyway. Explain.

Problem 5

Congress and government agencies often make laws to help protect the safety of consumers. New cars, for example, are required to have many safety features before they can be sold in the United States. These rules do indeed provide added safety for buyers, although they also add to the cost of making and price of buying the new vehicles. What secondary effects can you see happening as the result of mandating that automobiles have airbags? What incentives do you see changing for drivers as the result of making cars safer? Do you think the millions of dollars spent by consumers on air bags each year could be better spent elsewhere to save even more lives?

In recent years, both the personal exemption and child tax credit have been increased in the United States. According to the basic principles of economics, how will the birthrate be affected by policies that reduce the taxes imposed on those with children?

Problem 6

This question pertains to the addendum to Chapter 2. The following tables show the production possibilities for two hypothetical countries, Italia and Nire. Which country has the comparative advantage in producing butter? Which country has the comparative advantage in producing guns? What would be a mutually agreeable rate of exchange between the countries?

| Italia | | Nire | |
|--------|--------|------|--------|
| Guns | Butter | Guns | Butter |
| 12 | 0 | 16 | 0 |
| 8 | 2 | 12 | 1 |
| 4 | 4 | 8 | 2 |
| 0 | 6 | 4 | 3 |
| | | 0 | 4 |

Problem 7

- **Colleen can cut 12 logs a day or gather 10 bushels of food a day**
- **Bill can only cut 5 logs a day or gather 8 bushels a day**