SOLUTIONS TO TEXT PROBLEMS:

Quick Quizzes

1. The four principles of economic decisionmaking are: (1) people face tradeoffs; (2) the cost of something is what you give up to get it; (3) rational people think at the margin; and (4) people respond to incentives. People face tradeoffs because to get one thing that they like, they usually have to give up another thing that they like. The cost of something is what you give up to get it, not just in terms of monetary costs but all opportunity costs. Rational people think at the margin by taking an action if and only if the marginal benefits exceed the marginal costs. People respond to incentives because as they compare benefits to costs, a change in incentives may cause their behavior to change.

2. The three principles concerning economic interactions are: (1) trade can make everyone better off; (2) markets are usually a good way to organize economic activity; and (3) governments can sometimes improve market outcomes. Trade can make everyone better off because it allows countries to specialize in what they do best and to enjoy a wider variety of goods and services. Markets are usually a good way to organize economic activity because the invisible hand leads markets to desirable outcomes. Governments can sometimes improve market outcomes because sometimes markets fail to allocate resources efficiently because of an externality or market power.

3. The three principles that describe how the economy as a whole works are: (1) a country’s standard of living depends on its ability to produce goods and services; (2) prices rise when the government prints too much money; and (3) society faces a short-run tradeoff between inflation and unemployment. A country’s standard of living depends on its ability to produce goods and services, which in turn depends on its productivity, which is a function of the education of workers and the access workers have to the necessary tools and technology. Prices rise when the government prints too much money because more money in circulation reduces the value of money, causing inflation. Society faces a short-run tradeoff between inflation and unemployment that is only temporary and policymakers have some ability to exploit this relationship using various policy instruments.

Questions for Review

1. Examples of tradeoffs include time tradeoffs (such as studying one subject over another, or studying at all compared to engaging in social activities) and spending tradeoffs (such as whether to use your last ten dollars on pizza or on a study guide for that tough economics course).

2. The opportunity cost of seeing a movie includes the monetary cost of admission plus the time cost of going to the theater and attending the show. The time cost depends on what else you might do with that time; if it's staying home and watching TV, the time cost may be small, but if it's working an extra three hours at your job, the time cost is the money you could have earned.

3. The marginal benefit of a glass of water depends on your circumstances. If you've just run a marathon, or you've been walking in the desert sun for three hours, the marginal benefit is very high. But if you've been drinking a lot of liquids recently, the marginal benefit is quite low. The point is that even the necessities of life, like water, don't always have large marginal benefits.

4. Policymakers need to think about incentives so they can understand how people will respond to the policies they put in place. The text's example of seat belts shows that policy actions can

have quite unintended consequences. If incentives matter a lot, they may lead to a very different type of policy; for example, some economists have suggested putting knives in steering columns so that people will drive much more carefully! While this suggestion is silly, it highlights the importance of incentives.

5. Trade among countries isn't a game with some losers and some winners because trade can make everyone better off. By allowing specialization, trade between people and trade between countries can improve everyone's welfare.

6. The "invisible hand" of the marketplace represents the idea that even though individuals and firms are all acting in their own self-interest, prices and the marketplace guide them to do what is good for society as a whole.

7. The two main causes of market failure are externalities and market power. An externality is the impact of one person's actions on the well-being of a bystander, such as from pollution or the creation of knowledge. Market power refers to the ability of a single person (or small group of people) to unduly influence market prices, such as in a town with only one well or only one cable television company. In addition, a market economy also leads to an unequal distribution of income.

8. Productivity is important because a country's standard of living depends on its ability to produce goods and services. The greater a country's productivity (the amount of goods and services produced from each hour of a worker's time), the greater will be its standard of living.

9. Inflation is an increase in the overall level of prices in the economy. Inflation is caused by increases in the quantity of a nation's money.

10. Inflation and unemployment are negatively related in the short run. Reducing inflation entails costs to society in the form of higher unemployment in the short run.

Problems and Applications

1. a. A family deciding whether to buy a new car faces a tradeoff between the cost of the car and other things they might want to buy. For example, buying the car might mean they must give up going on vacation for the next two years. So the real cost of the car is the family's opportunity cost in terms of what they must give up.

   b. For a member of Congress deciding whether to increase spending on national parks, the tradeoff is between parks and other spending items or tax cuts. If more money goes into the park system, that may mean less spending on national defense or on the police force. Or, instead of spending more money on the park system, taxes could be reduced.

   c. When a company president decides whether to open a new factory, the decision is based on whether the new factory will increase the firm's profits compared to other alternatives. For example, the company could upgrade existing equipment or expand existing factories. The bottom line is: Which method of expanding production will increase profit the most?

   d. In deciding how much to prepare for class, a professor faces a tradeoff between the value of improving the quality of the lecture compared to other things she could do with her time, such as working on additional research.

2. When the benefits of something are psychological, such as going on a vacation, it isn't easy to compare benefits to costs to determine if it's worth doing. But there are two ways to think about the benefits. One is to compare the vacation with what you would do in its place. If you didn't go on vacation, would you buy something like a new set of golf clubs? Then you can decide if you'd rather have the new clubs or the vacation. A second way is to think about how much work you had to do to earn the money to pay for the vacation; then you can decide if the psychological benefits of the vacation were worth the psychological cost of working.

3. If you are thinking of going skiing instead of working at your part-time job, the cost of skiing includes its monetary and time costs, which includes the opportunity cost of the wages you are giving up by not working. If the choice is between skiing and going to the library to study, then the cost of skiing is its monetary and time costs including the cost to you of getting a lower grade in your course.

4. If you spend $100 now instead of saving it for a year and earning 5 percent interest, you are giving up the opportunity to spend $105 a year from now. The idea that money has a time value is the basis for the field of finance, the subfield of economics that has to do with prices of financial instruments like stocks and bonds.

5. The fact that you've already sunk $5 million isn't relevant to your decision anymore, since that money is gone. What matters now is the chance to earn profits at the margin. If you spend another $1 million and can generate sales of $3 million, you'll earn $2 million in marginal profit, so you should do so. You are right to think that the project has lost a total of $3 million ($6 million in costs and only $3 million in revenue) and you shouldn't have started it. That's true, but if you don't spend the additional $1 million, you won't have any sales and your losses will be $5 million. So what matters is not the total profit, but the profit you can earn at the margin. In fact, you'd pay up to $3 million to complete development; any more than that, and you won't be increasing profit at the margin.

6. Harry suggests looking at whether productivity would rise or fall. Productivity is certainly important, since the more productive workers are, the lower the cost per gallon of potion. Ron wants to look at average cost. But both Harry and Ron are missing the other side of the equation—revenue. A firm wants to maximize its profits, so it needs to examine both costs *and* revenues. Thus, Hermione is right—it's best to examine whether the extra revenue would exceed the extra costs. Hermione is the only one who is thinking at the margin.

7. a. The provision of Social Security benefits lowers an individual's incentive to save for retirement. The benefits provide some level of income to the individual when he or she retires. This means that the individual is not entirely dependent on savings to support consumption through the years in retirement.

   b. Since a person gets fewer after-tax Social Security benefits the greater is his or her earnings, there is an incentive not to work (or not work as much) after age 65. The more you work, the lower your after-tax Social Security benefits will be. Thus the taxation of Social Security benefits discourages work effort after age 65.

8. a. When welfare recipients who are able to work have their benefits cut off after two years, they have greater incentive to find jobs than if their benefits were to last forever.

   b. The loss of benefits means that someone who can't find a job will get no income at all, so the distribution of income will become less equal. But the economy will be more efficient, since welfare recipients have a greater incentive to find jobs. Thus the change in the law is one that increases efficiency but reduces equity.

9. By specializing in each task, you and your roommate can finish the chores more quickly. If you divided each task equally, it would take you more time to cook than it would take your roommate, and it would take him more time to clean than it would take you. By specializing, you reduce the total time spent on chores.

   Similarly, countries can specialize and trade, making both better off. For example, suppose it takes Spanish workers less time to make clothes than French workers, and French workers can make wine more efficiently than Spanish workers. Then Spain and France can both benefit if Spanish workers produce all the clothes and French workers produce all the wine, and they exchange some wine for some clothes.

10. a. Being a central planner is tough! To produce the right number of CDs by the right artists and deliver them to the right people requires an enormous amount of information. You need to know about production techniques and costs in the CD industry. You need to know each person's musical tastes and which artists they want to hear. If you make the wrong decisions, you'll be producing too many CDs by artists that people don't want to hear, and not enough by others.

    b. Your decisions about how many CDs to produce carry over to other decisions. You have to make the right number of CD players for people to use. If you make too many CDs and not enough cassette tapes, people with cassette players will be stuck with CDs they can't play. The probability of making mistakes is very high. You will also be faced with tough choices about the music industry compared to other parts of the economy. If you produce more sports equipment, you'll have fewer resources for making CDs. So all decisions about the economy influence your decisions about CD production.

11. a. Efficiency: The market failure comes from the monopoly by the cable TV firm.
    b. Equity
    c. Efficiency: An externality arises because secondhand smoke harms nonsmokers.
    d. Efficiency: The market failure occurs because of Standard Oil's monopoly power.
    e. Equity
    f. Efficiency: There is an externality because of accidents caused by drunk drivers.

12. a. If everyone were guaranteed the best health care possible, much more of our nation's output would be devoted to medical care than is now the case. Would that be efficient? If you think that currently doctors form a monopoly and restrict health care to keep their incomes high, you might think efficiency would increase by providing more health care. But more likely, if the government mandated increased spending on health care, the economy would be less efficient because it would give people more health care than they would choose to pay for. From the point of view of equity, if poor people are less likely to have adequate health care, providing more health care would represent an improvement. Each person would have a more even slice of the economic pie, though the pie would consist of more health care and less of other goods.

    b. When workers are laid off, equity considerations argue for the unemployment benefits system to provide them with some income until they can find new jobs. After all, no one plans to be laid off, so unemployment benefits are a form of insurance. But there's an efficiency problem—why work if you can get income for doing nothing? The economy isn't operating efficiently if people remain unemployed for a long time, and unemployment benefits encourage unemployment. Thus, there's a tradeoff between equity and efficiency. The more generous are unemployment benefits, the less income is lost by an unemployed person, but the more that person is encouraged to remain unemployed. So greater equity reduces efficiency.

13. Since average income in the United States has roughly doubled every 35 years, we are likely to have a better standard of living than our parents, and a much better standard of living than our grandparents. This is mainly the result of increased productivity, so that an hour of work produces more goods and services than it used to. Thus incomes have continuously risen over time, as has the standard of living.

14. If Americans save more and it leads to more spending on factories, there will be an increase in production and productivity, since the same number of workers will have more equipment to work with. The benefits from higher productivity will go to both the workers, who will get paid more since they're producing more, and the factory owners, who will get a return on their investments. There is no such thing as a free lunch, however, because when people save more, they are giving up spending. They get higher incomes at the cost of buying fewer goods.

15. a. If people have more money, they are probably going to spend more on goods and services.

    b. If prices are sticky, and people spend more on goods and services, then output may increase, as producers increase output to meet the higher demand rather than raising prices.

    c. If prices can adjust, then the higher spending of consumers will be matched with increased prices and output won't rise.

16. To make an intelligent decision about whether to reduce inflation, a policymaker would need to know what causes inflation and unemployment, as well as what determines the tradeoff between them. Any attempt to reduce inflation will likely lead to higher unemployment in the short run. A policymaker thus faces a tradeoff between the benefits of lower inflation compared to the cost of higher unemployment.