Chapter 1

The Art and Science of Economic Analysis

## SOLUTIONS TO END OF CHAPTER PROBLEMS

1. A resource is scarce when the amount people desire exceeds the amount available at a price of zero. The concept of scarcity is important to the definition of economics because scarcity forces people to choose how they will use their resources in an attempt to satisfy their unlimited wants and desires. Economics is about making choices. Without scarcity, there would be no economic problem and, therefore, no need to choose between competing wants and desires.

2.

a. Individuals will compare the expected benefits of attending college full time with the expected costs. One benefit might be that the individual’s stock of knowledge and productivity will grow, and so will his or her wage. Costs include not only tuition but also the forgone wages, wages that could have been earned by working instead of attending college full time. If the expected benefits outweigh the costs, then the rational person will choose to go to college full time.

b. Individuals will compare the expected benefits of a new textbook with the higher costs of purchasing a new textbook. The benefits include not being confused by other students’ markings in the book and a higher resale value. However, the out-of-pocket cost of a new book will be higher than the cost of a used book. If the expected benefits outweigh the costs, then a rational person will purchase the new textbook.

c. Individuals will compare the expected benefits and costs associated with both colleges under consideration and will choose the college at which the difference between benefits and costs is greater. The costs of attending an out-of-town college may include greater travel costs and phone bills, while the benefits may include learning about a different region.

3. Rational self-interest is not blind materialism, pure selfishness, or greed. Rational self -interest means we choose the option that maximizes expected benefits with a given cost. People will give more to charities when the contribution is tax deductible. The lower the personal cost of helping others, the more we are willing to help and contribute.

4. By increasing its delivery radius, the store will have greater sales. However, these marginal revenues must be balanced against the additional costs incurred, such as a greater consumption of pizza ingredients, more gasoline for the delivery truck, and possibly the need to hire additional labor and increase advertising.

5. Rational decision makers will continue to acquire information as long as the benefit of the additional information exceeds the additional costs. Oftentimes, we are willing to pay others to gather and digest the information for us.

6. This question highlights the fact that economics, like all social sciences, attempts to describe and explain human behavior. In doing so, it cannot measure and control for all factors influencing behavior. The result is that the behavior of a specific individual cannot be explained or predicted, but the behavior of groups of individuals can be. We cannot, for example, predict any particular individual’s buying response to a sale. We can, however, predict what kind of total selling volume will occur because of a sale.

7.

a. This assertion is a mistake because the secondary effects of taxes on production and the labor supply are ignored. If the tax rate were raised to 100 percent, for example, no one would want to work or produce, so government revenues would decline.

b. This is the fallacy that association implies causation. It is more likely that recession causes a change in imports than the other way around.

c. This is a fallacy of composition. True, the tariff may help the steel industry. But it hurts purchasers of steel, including the automobile and construction industries. The overall effect on the economy is unclear.

d. This is the fallacy of composition, since attempts to sell so much gold at once would push down the price of gold.

8. You are committing the fallacy that association is causation. The causality is undoubtedly in the other direction; that is, doctors will tend to locate where there is a lot of disease and, therefore, a greater need for medical care.

9. Answers may vary. Students select college majors for a variety of reasons and the expected pay is only one of them. Some students have the aptitude necessary to successfully study economics.