

FOR YOUR REVIEW

ANSWER KEY

CHAPTER 1

THE ROLE AND METHOD OF ECONOMICS

SECTION 1.1 ECONOMICS: A BRIEF INTRODUCTION

1. The definition of *economics* must recognize the central parts of the economist's point of view: Resources are scarce, scarcity forces us to make choices, and the cost of any choice is the cost of the lost opportunity with the highest value.
2.
 - a. Microeconomics
 - b. Macroeconomics
 - c. Microeconomics
 - d. Macroeconomics
 - e. Microeconomics

SECTION 1.2 ECONOMIC THEORY

3.
 - a. The first is positive and the other is normative. The first statement (a positive statement) expresses a fact or a testable theory that a higher income tax rate would generate increased tax revenues. The second statement (a normative statement) expresses an opinion regarding how any additional tax revenues should be used.
 - b. Both are normative statements that express opinions. The first regards the relative value of studying physics as opposed to studying sociology, and the second regards the value of studying either physics or sociology.
 - c. Both statements are positive. They are expressions of facts or testable theories regarding the relationship between the price of wheat and how much wheat will be purchased and produced.
 - d. The first is positive and the other is normative. The first statement (positive) expresses a fact or testable theory regarding the relationship between the price of butter and how much will be purchased. The second statement (normative) is an expression of opinion about the social value of buying butter.
 - e. Both statements are positive. They are expressions of fact or testable theory regarding demographic change.
4.
 - a. Positive. The statement is a testable hypothesis.
 - b. Normative. Asserting that funding for social assistance should be reduced contains a value judgment about the costs and benefits of doing so.
 - c. Positive. The statement expresses a fact or a testable theory that tariffs will result in higher prices for domestic wine.
 - d. Positive. The statement could be confirmed or refuted by empirical data.
 - e. Normative. A benefit of charging a provincial sales tax on Internet sales is that it will level the playing field with non-Internet retailers. However, a cost of this same tax is that it will reduce

- total Internet sales and possibly have other negative effects. The statement implies a value judgment that the benefits outweigh the costs.
- f. Positive. The statement is subject to empirical testing.
5. a. This involves confusing correlation with causation.
b. This involves confusing correlation with causation.
c. This involves the fallacy of composition.
d. This is a violation of the *ceteris paribus* conditions.
e. There is no fallacy in this statement.
6. Observation and prediction are more difficult in economics than in chemistry because, unlike chemists, economists generally cannot observe behaviour in a laboratory setting where all relevant environmental variables can be carefully controlled. Economists study economic behaviour in the real world, where many variables influence behaviour simultaneously. It is difficult in a complex global economy to observe and predict relationships between variables, isolated from other effects.
7. Economics is concerned with reaching generalizations about human behaviour. If you generalize on the basis of observed individual behavior, you risk committing the fallacy of composition. Generalizations based on observed group behaviour are likely to be both more realistic and useful (reliable).

SECTION 1.3 SCARCITY

8. Being poor means that you have access to few resources, which limits the goods and services you consume. Scarcity means you don't have enough resources to do everything you want to do, so you have to make choices. Everyone experiences scarcity, because we can always think of more things that we want than we can produce with our resources.
9. The automobile freed Canadians to travel and helped to create the tourism business. New wants included motels, resorts, and theme parks. The increased importance of automobile and truck transportation also created the desire for more and better roads and highways. The automobile also allowed people to live farther from where they worked, so that people wanted more land and newer houses.
10. Scarce goods are those that people pay for in either time or money or, in other words, have an opportunity cost. Garbage and dirty air in the city are not scarce goods since we either pay to get rid of them or pay with the consequences of their presence. Similarly, salt water is not a scarce good. Although it is in limited supply, the current abundance of salt water makes it seem limitless. Clothes, clean air, and public libraries are scarce goods because their production requires the use of scarce resources that could be used for the production of other goods.

SECTION 1.4 OPPORTUNITY COST

11. Since Sarah's time is probably worth more during the school year (it would cost part of her salary), the opportunity cost of the trip is higher in February than in July.
12. The opportunity cost of this decision valued in dollars would be \$33.50 (\$30 forgone pay for not tutoring for two hours + \$3.50 for the cup of coffee).

13.
 - a. The opportunity cost of going to college or university includes the income you could have earned by working instead; it also includes the money spent on school-specific expenses like tuition and textbooks. Room and board and transportation would not necessarily be included, since you would need those services even if you were not going to school.
 - b. The opportunity cost of missing a lecture includes the potential damage to one's grade in a course from not being present while important subject material is covered, as well as the knowledge's forgone value in the "real world." The magnitude of the opportunity cost depends partly on how much essential information the instructor provides during the missed class session or if any activities were conducted.
 - c. The opportunity cost of spending \$100 today is the \$105 you could have spent next year. If you are withdrawing the money just to have cash in your pocket, the opportunity cost of holding money is the 5 percent interest you could have been earning.
 - d. The opportunity cost of snowboarding the weekend before final examinations is the expected reduction in grades that will result, in addition to the cost of a lift ticket.
14. Inactions are choices not to do something. Inactions, like actions, have consequences. For example, if you choose not to study, you may fail an exam.
15. One of the most important resources used raising children has historically been the mother's time. As opportunities for women to hold jobs, start businesses, and participate in political life increase, the cost of using women's time for raising children increases. As the cost of the mother's time rises, fewer children are born.

SECTION 1.5 MARGINAL THINKING

16.
 - a. \$50; \$25
 - b. 3; 5; Mark would go as long as his marginal benefit was greater than the admission price.
 - c. Yes; 6; Mark would buy the pass because his total benefits exceed his total cost. Once he has the pass, the marginal cost of attending one more day becomes zero, so he will go as long as his marginal benefits exceed zero.
17.
 - a. \$57; \$88
 - b. 43; 44; he would produce widgets as long as the price (marginal benefit) exceeded the marginal cost.
18. The expected marginal benefits of jaywalking are the time saved and convenience of crossing the street where you want. The expected marginal costs are the additional risk of being hit by a car and the risk of being fined for jaywalking.
 - a. Increases cost by increasing the risk of being hit by a car.
 - b. Lowers cost by lowering the risk of being hit by a car and the risk of being fined.
 - c. Increases the benefit because of the higher value of saved time.
 - d. Increases cost because of a higher risk of receiving a fine.
 - e. The time and convenience benefits are larger.
 - f. The time and convenience benefits are smaller.
19. Marginal thinking involves incremental changes to a plan of action. All of the activities listed involve marginal thinking. When studying, one chooses whether or not to study for one more hour; when eating, one chooses whether or not to consume one more portion; when driving, one chooses whether or not to travel one more kilometre (or one more kilometre per hour); when shopping, one chooses whether or not to buy one more item or visit one more store; when getting ready for a night out, one

chooses whether or not to spend another minute styling one's hair.

20. As long as people follow the rule of rational choice, they will always make decisions from which they expect to gain more in benefits than they have to give up in costs; that is, they will make decisions from which their net marginal benefit (marginal benefit minus marginal cost) is positive. They will always be better off in this case. However, if people's expectations about benefits or costs are wrong, their decisions may unexpectedly make them worse off.

SECTION 1.6 INCENTIVES MATTER

21. Positive incentives are those that either increase benefits or reduce costs and thus tend to increase the level of an activity. Both of the following are examples of positive incentives: (b) a trip to Hawaii paid for by your parents or significant other for earning an A in your economics course; (d) a subsidy for installing solar panels on your house. Negative incentives either reduce benefits or increase costs, and thus tend to decrease the level of the related activity or behaviour. Both of the following are examples of negative incentives: (a) a fine for not cleaning up after your dog defecates in the park; (c) a higher tax on cigarettes and alcohol.
22. Singapore's tough drug-trafficking penalty would clearly impact the cost-benefit ratios of would-be smugglers. Lighter sentences would probably result in more drug smuggling because the overall cost of breaking the law would be reduced.
23. The Chinese government was attempting to promote population control. As the world's most populated country, China has historically struggled with controlling population growth in its attempts to manage economic growth and national standards of living. The sanctions and penalties associated with not following the one-child policy would be considered negative incentives designed to discourage couples from having more than one child. The rewards and honours associated with following the policy would be considered positive incentives designed to promote adherence to the policy.

SECTION 1.7 SPECIALIZATION AND TRADE

24. Denying trade possibilities also eliminates the possibility of specialization. In autarky, a country must produce everything it consumes. Scarce resources will be wasted producing goods with higher opportunity costs. Trading would allow the country to produce more with the same resources.
25. The opportunity cost to Fran of growing soybeans is the lost value because she can't grow corn. This opportunity cost is equal to \$1800 ($3000 \text{ kg} \times \$0.60/\text{kg}$). The opportunity cost of growing corn is the lost opportunity to grow and sell soybeans, which is equal to \$2250 ($1500 \text{ kg} \times \$1.50/\text{kg}$). Fran should specialize in soybeans, which is the crop with the lower opportunity cost. For each hectare of corn that Fran converts to soybeans, she will gain \$450.
26. a. Canada has a comparative advantage in wheat.
b. Colombia has a comparative advantage in coffee.
c. British Columbia has a comparative advantage in lumber.
d. Alberta has a comparative advantage in oil.

27. a. If the country or region with the lower opportunity cost produces the good, the opportunity cost of consuming that good is minimized.
- b. Trade allows people, regions, and countries to specialize in producing those goods in which they have the lowest opportunity cost, so reducing trade restrictions will encourage specialization, thereby increasing efficiency.

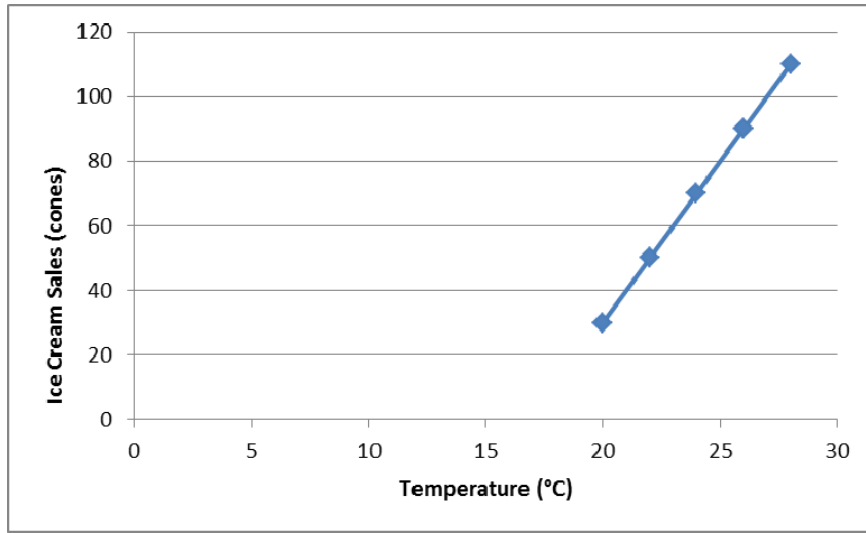
SECTION 1.8 THE THREE ECONOMIC QUESTIONS EVERY SOCIETY FACES

28. The three basic economic questions are: (1) What is to be produced? (2) How are these goods and services to be produced? (3) Who will get the goods and services? Scarcity requires that these questions be addressed in some way by every economy. Market economies answer these questions in a decentralized way through the interaction of millions of buyers and sellers. In command economies, decisions are made largely through planning boards. The manner in which an economic system answers these questions helps determine the allocation of limited resources.
29. No, Karl is wrong. Markets provide important signals, and the signal being sent in this situation is that Adam should look for some other way to support his ambitions, something that society values. Remember the function of consumer sovereignty in the marketplace. Clearly, consumers were not voting for Adam's art.

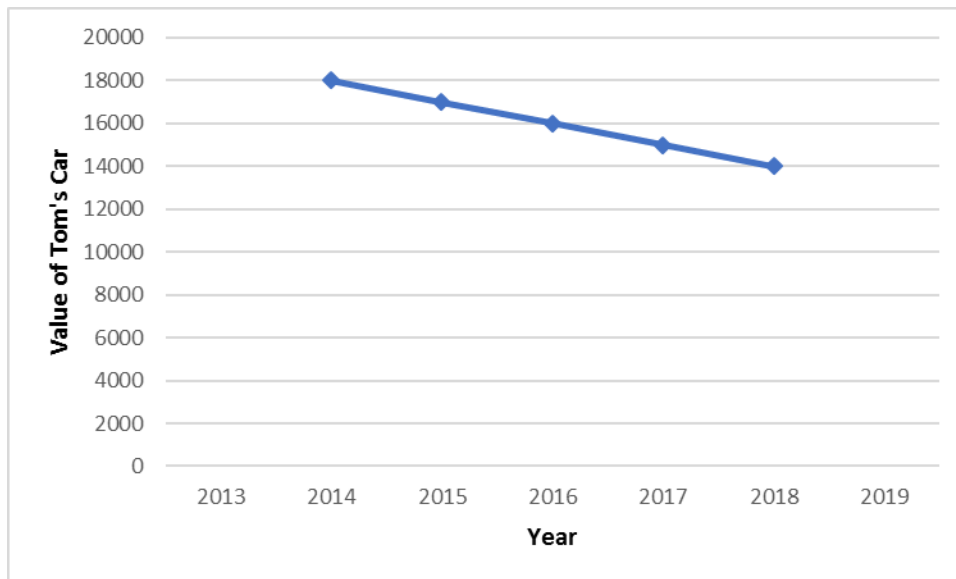
CHAPTER 1 APPENDIX WORKING WITH GRAPHS

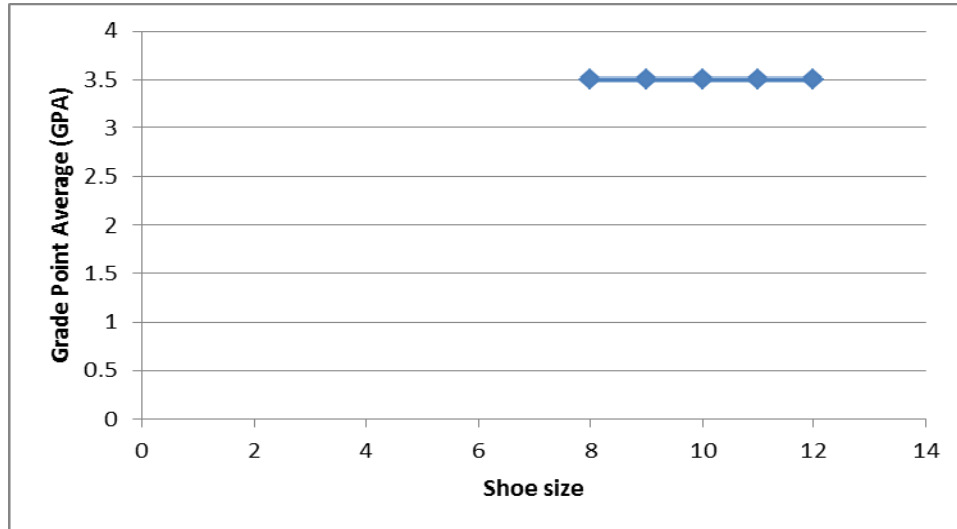
1. A. $(-2, 2)$
B. $(2, 1)$
C. $(3, 2)$
D. $(-1, -2)$
E. $(2, -1)$
F. $(-2, -1)$
2. a. 8%
b. 20%
c. Two-door sedans
d. All-electric
3. a. Semester 1
b. Semesters 3 and 4
c. Semester 2
d. Total number of boys: 372; total number of girls: 366

4. **Graph 1: Upward sloping**



Graph 2: Downward sloping



Graph 3: Unrelated

5.
 - a. 2
 - b. -3
 - c. -0.5
 - d. Undefined
 - e. 0
6.
 - a. 50%
 - b. 5%
 - c. 0.8%
 - d. 5%