Answers to Text Questions and Problems Chapter 11

Answers to Review Questions

1.   No consumer could possibly have time to learn about how each of the thousands of individual car models differ from one another. A rational consumer will invest in gathering more information, including taking additional test drives, only up to the point at which the marginal benefit of information is equal to its marginal cost. That will almost surely happen before the consumer test drives every car on the market.

2.   Suppose the painter's reservation price for producing the painting is $5000, and that, by himself, he would be able to find a buyer willing to pay $10,000 for it. If the gallery owner can find some other buyer willing to pay $30,000, then the owner's contribution to total economic surplus would be bigger than the painter's.

3.   Suppose used cars offered for sale were the same, on average, as used cars not offered for sale. Then the price of a used car would reflect the value of a used car in average condition. But the owner of a car in above-average condition would be disinclined to sell it at that price. In contrast, owners of used cars in below-average condition would be only too happy to sell at that price. Thus the used cars offered for sale tend to be below average in quality.

4.   A seller's inability to communicate credibly that her car is in good condition will often prevent a valuable exchange. This problem will be less serious in a community in which a strong tradition of honesty enables sellers to make credible claims about the quality of their offerings.

5.   People are more likely to supply resources to a successful film producer than an unsuccessful one. Successful producers earn more than unsuccessful ones, and are therefore more likely to drive expensive automobiles. An aspiring producer's failure to drive an expensive automobile may thus signal to potential clients that he is not successful.

Answers to Problems

1a.   False. The market value of a used car is lower than that of a new car not just because of depreciation, but also because the quality of the used car is harder to ascertain.
b.   True. Because charging non-buyers for advice is often impractical, the market generally provides less than the socially optimal amount of retail service.
c.   False. The best-attired lawyer will not always be the best lawyer. You should follow this selection strategy only when you have no more reliable information about the quality of the lawyers.
d.   True. The benefit of searching in a large city is greater, because there is a greater range of potential spouses to choose from.

2.   Since consumers value non-defective cars at $10,000, the only used cars for sale will be defective ones. The used car price of $2500 is thus the value to consumers of a defective car. For a risk-neutral buyer, the reservation price for a new car will be the value of a good car multiplied by the probability of getting a good car, plus the value of a bad car multiplied by the probability of getting a bad car. To find x, we thus solve $5000 = (1 - x)\,(\$10,000) + x\,(\$2500)$ to get $x = 2/3$.

3.   Carlos will hire the realtor, because he will sell the house for $250,000 and pay the realtor $12,500, for a net price of $237,500, which is well above Whitney's $140,000. Without the realtor, total economic surplus would have been only $20,000 ($10,000 each to Whitney and Carlos). But with the realtor, total surplus is $107,500 to Carlos, $50,000 to the buyer, and $10,500 to the realtor (his $12,500 commission minus his $2000 opportunity cost of negotiating the transaction).

4.   Because standardized tract homes are relatively well-known commodities with many potential buyers, a seller can usually find a qualified buyer on her own. In contrast, the market for an unusual house will typically involve many fewer informed and interested buyers. A realtor who knows the pool of buyers well will thus be of significantly more value to Barbara than to Ann.

5a.   Because salary levels differ very little among elementary school teachers with a given level of experience, a teacher's income and consumption provide little information about her ability. Real estate agents, by contrast, are paid on commission, so that someone who sells twice as many houses as the average realtor gets paid twice as much. Income and consumption differences among real estate agents are thus reasonably good indications of selling ability.
b.   The dentist, for essentially similar reasons.
c.   The engineer in the private sector, for essentially similar reasons.

6.   By shifting the supply curve of brokerage services to the right, increased Internet access results in a lower price of brokerage services, and this reduces the incomes of brokers who continue to serve the same number of clients as before.

7a.   Stock in a company is a highly standardized commodity and hence more easily exchanged over the Internet than are legal services, which usually need to be tailored closely to the specific needs of the client. So increased Internet access should have a much bigger impact on brokers than on lawyers.
b.   The impact on pharmacists will be greater, for essentially similar reasons.
c.   The impact on bookstore owners will be greater, for essentially similar reasons.

8.   Fans of obscure musicians and actors are often too small in number to find one another and organize themselves into clubs by traditional means. But anyone can find the Web page set up by a fan of an obscure performer. So the expansion of Internet access should increase the number of fan clubs of performers.

9.   Buying pottery at auction takes much more time than buying it from a dealer, who himself must often sit through several auctions for each piece of pottery he buys. Being retired, Fred's opportunity cost of time is lower than his brother's, so he is more likely than his brother to buy his pottery at auction, and the price he pays for each piece will be lower.

10a.   Tom's expected value is ($13,000 × 0.1) + ($9000 × 0.9) = $9400, so his economic surplus is $9400 – $8000 = $1400.
b.   Because 10% of all Miatas available for sale are in excellent condition, Tom's probability of acquiring a Miata in excellent condition is 10%.
c.   Since Tom would have been willing to pay $13,000 for his aunt's Miata, if she sells it to him for $8000, his economic surplus is $13,000 – $8000 = $5000.
d.   A Miata in excellent condition is worth $13,000 to Tom, so he is willing to pay up to $13,000 – $8000 = $5000 for a warranty guaranteeing the condition of the car he buys.
e.   If Tom is risk averse, then a warranty would become even more valuable to him. Tom would then be willing to pay more than $5000 for a warranty guaranteeing the condition of the car he buys.

Sample Homework Assignment

1. You are buying a new car, and you know that researching car prices on the internet will lower the price you pay for the car. The prices you will pay with various levels of internet search time are given in the table below. If you can earn $100 per hour working instead of searching for information on cars, what is your optimal number of hours spent conducting internet research on cars?

Hours searching	Price of car
0	$26,000
1	$23,000
2	$21,500
3	$21,000
4	$20,800
5	$20,750

2. You have decided to sell your own home. On the first day, you receive an offer for $150,000. If you decline the offer and keep the house on the market for 30 days, there is a 60% chance you will receive an offer for $250,000 (your asking price) and a 40% chance you will not sell at all. Alternatively, you can hire a real estate agent (for a commission of $12,500) and have a 90% chance of selling your house for $250,000 in 30 days. To wait 30 days to sell the house costs you $5000 in lost income because you cannot move to start your new job.
a. If you decide to sell the house on your own, should you sell the house now or wait 30 days? Explain.
b. If you wait 30 days, should you hire a real estate agent or not? Explain.

3. You are hiring a manager for your firm for one year. You have three job candidates with different levels of education who, if they work out, will do the job equally well. You can hire the high school graduate for $25,000, with a 10% chance of it working out. You can hire the C-average university graduate for $30,000, with a 50% chance of it working out. You can hire the A-average university graduate for $33,000, with a 95% chance of it working out. If the manager you hire does not work out, it will cost you $10,000 to run a new hiring search. Which candidate do you choose? Explain.

Multiple Choice Quiz

1. Adam Smith's Invisible Hand Theory makes which assumption about information?
a. Information is costly.
b. Information provides benefits.
c. Buyers are ignorant.
d. Buyers are fully informed.
e. None of the above.

2. Improving information will have which effect on economic surplus?
a. Increase it
b. Decrease it
c. Redistribute it
d. Leave it unchanged
e. Eliminate it

3.   The optimal amount of information is
a.   zero.
b.   the maximum available.
c.   where marginal cost is lowest.
d.   where marginal benefit is highest.
e.   none of the above.

4.   People are risk neutral if
a.   they will accept any gamble.
b.   they will accept a gamble only if it is better-than-fair.
c.   they will accept a fair or better-than-fair gamble.
d.   they will not accept an unfair gamble.
e.   none of the above.

5.   If you will refuse any fair gamble, you are
a.   risk loving.
b.   risk neutral.
c.   risk averse.
d.   risk avoiding.
e.   anticompetitive.

6.   When buyers and sellers are not equally well informed about a good, there is
a.   unfairness.
b.   asymmetric information.
c.   symmetric information.
d.   risk aversion.
e.   costly information.

7.   The lemons model explains how
a.   asymmetric information decreases the average quality of goods for sale.
b.   people with lower quality goods are more likely to sell them.
c.   reservation prices for used goods are lower.
d.   there is a downward spiral in the average quality of used cars.
e.   all of the above.

8.   Suppose that 15% of all new cars are lemons, that good used cars are worth $15,000, and that lemons are worth $5000. In the long run, what will be the price of a used car?
a. $15,000
b. $13,500
c. $6500
d. $5000
e. $0

9.   That insurance is purchased disproportionately by those who are most costly to insure is an example of
a.   adverse selection.
b.   conspicuous consumption.
c.   statistical discrimination.
d.   risk aversion.
e.   none of the above.

10. Hiring lawyers based on the cars they drive and the clothes they wear is hiring based on
a. adverse selection.
b. conspicuous consumption.
c. statistical discrimination.
d. risk aversion.
e. none of the above.

Problems/Short Answer

1. Consider a gamble in which you win $10 if a six-sided die (with 1 to 6 on the sides) rolls a six. If any other number is rolled, you lose $2. The die is "loaded" so that there is a 20% chance that it will roll a 6.
a. What is the expected value of the gamble?
b. If you are risk neutral, will you accept the gamble? Explain.

2. Suppose you own and manage your own t-shirt business. Currently you buy your plain t-shirts (on which you put a logo) from a retail supplier in town. You know that if you closed down your stand and spent time searching the internet, you could find a better price for your next shipment of 100 t-shirts. But, closing down the stand would decrease your profits by $50 per hour. The reduction in the price you must pay for t-shirts after different amounts of internet research is shown in the table below. How long should you spend researching lower t-shirt prices? Explain.

Hours spent researching	Price of t-shirts
0	$4.50
1	$3.75
2	$3.00
3	$2.40
4	$2.00
5	$1.80

Answer Key to Extra Questions in Instructor's Manual

Sample Homework Assignment

1. The marginal benefit of internet research is $3000 for the first hour, $1500 for the second, $500 for the third, $200 for the fourth, and $50 for the fifth. The marginal benefit exceeds the marginal cost of $100 for 4 hours of searching.

2a. If you sell the house yourself, the options are $15,000 now with a probability of 100%, or $250,000 in 30 days with a probability of 60%. The value of the offer in 30 days is $250,000(0.6) – $5000 = $150,000 – $5000 = $145,000. Therefore, you should sell it now.
b. If you wait 30 days to sell, the options are to sell it yourself (see above) with a value of $145,000 or to sell with a real estate agent for $250,000, with a probability of 90% and added cost of $12,500. The value of selling with a real estate agent is $250,000(0.9) – $12,500 – $5000 = $207,500. It is better to use the real estate agent.

3.   The high school graduate is paid $25,000, but there is a 90% probability of a $10,000 new search, so the new search cost is $9000. $25,000 + $9000 = $34,000. The C-average university graduate is paid $30,000, but there is a 50% probability of a $10,000 new search, so the new search cost is $5000. $30,000 + $5000 = $35,000. The A-average university graduate is paid $33,000, but there is a 5% probability of a $10,000 new search, so the new search cost is $500. $33,000 + $500 = $33,500. Since they will perform equally well, you should hire the A-average university graduate, because the cost is lower.

Multiple Choice

1. d
2. a
3. e
4. c
5. c
6. b
7. e
8. d
9. a
10. b

Problems/Short Answer

1a.   The expected value = 0.2($10) – 0.8($2) = $2 – $1.6 = $0.4.
b.   You would take the gamble because it is better-than-fair, that is, the expected value is positive.

2.   You should research as long as the marginal benefit of doing so exceeds the marginal cost. The marginal cost is $50 per hour, while the marginal benefit is the savings per shirt multiplied by 100. Therefore, the marginal benefit is $75 for the first hour, $75 for the second, $60 for the third, $40 for the fourth, and $20 for the fifth. The marginal benefit exceeds the marginal cost for the first three hours of research.