Chapter 5

1. For each pair of goods listed below, which good would you expect to have the more price elastic demand? Why?

a. cigarettes; a trip to Florida from Europe

Answer:
a trip to Florida because it is a luxury while cigarettes are a necessity (to smokers)

b. an AIDS vaccine over the next month; an AIDS vaccine over the next five years

Answer:
An AIDS vaccine over the next five years because there are likely to be more substitutes (alternative medications) developed over this time period and consumers' behaviour may be modified over longer time periods.

c. beer; Stella Artois beer

Answer: Stella Artois because it is a more narrowly defined market than beer so there are more substitutes for Stella Artois than for beer as a whole

d. insulin; aspirin

Answer:
aspirin because there are many substitutes for aspirin but few substitutes for insulin

2. Suppose the Daily News estimates that if it raises the subscription price of its online newspaper from €1.00 to €1.50 then the number of subscribers will fall from 50,000 to 40,000.

a. What is the price elasticity of demand for the Daily News when elasticity is calculated using the midpoint method?

Answer: (10,000/45,000)/(€0.50/€1.25) =
0.56

b. What is the advantage of using the midpoint method?

Answer:
With the midpoint method, the value of the elasticity is the same whether you begin at a price of €1.00 and raise it to €1.50 or begin at a price of €1.50 and reduce it to €1.00.

c. If the Daily News's only concern is to maximize total revenue, should it raise the price of a newspaper from €1.00 to €1.50? Why or why not?

Answer:

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Yes. Since the price elasticity of demand is less than one (inelastic), an increase in price will increase total revenue.

3. The table below provides the demand schedule for motel rooms at Small Town Motel. Use the information provided to complete the table. Answer the following questions based on your responses in the table. Use the midpoint method to calculate the percentage changes used to generate the elasticities.

Price	Quantity Demanded	Total Revenue	% Change in Price	% Change in Quantity	Elasticity
€20	24	________			
			________	________	________
40	20	________			
			________	________	________
60	16	________			
			________	________	________
80	12	________			
			________	________	________
100	8	________			
			________	________	________
120	4	________			

Answer:

Price	Quantity Demanded	Total Revenue	% Change in Price	% Change in Quantity
€20	24	480		
			0.67	0.18
40	20	800		
			0.40	0.22
60	16	960		
			0.29	0.29
80	12	960		
			0.22	0.40
100	8	800		
			0.18	0.67
120	4	480		

a. Over what range of prices is the demand for motel rooms elastic? To maximize total revenue, should Small Town Motel raise or lower the price within this range?

Answer:
€80 to €120; lower its prices

b. Over what range of prices is the demand for motel rooms inelastic? To maximize total revenue, should Small Town Motel raise or lower the price within this range?

Answer:
€20 to €60; raise its prices

c. Over what range of prices is the demand for motel rooms unit elastic? To maximize total revenue, should Small Town Motel raise or lower the price within this range?

Answer:
€60 to €80; it doesn't matter. For prices in this range, a change in price proportionately changes the quantity demanded so total revenue is unchanged.

4. The demand schedule from question 3 above is reproduced below along with another demand schedule when consumer incomes have risen to €60,000 from €50,000. Use this information to answer the following questions. Use the midpoint method to calculate the percentage changes used to generate the income elasticities.

Price	Quantity Demanded When Income is €50,000	Quantity Demanded When Income is €60,000
€20	24	34
40	20	30
60	16	26
80	12	22
100	8	18
120	4	14

a. What is the income elasticity of demand when motel rooms rent for €40?

Answer: (10/25)/(€10,000/€55,000) =
2.2

b. What is the income elasticity of demand when motel rooms rent for €100?

Answer: (10/13)/(€10,000/€55,000) =
4.2

c. Are motel rooms normal or inferior goods? Why?

Answer:
Normal goods, because the income elasticity of demand is positive.

d. Are motel rooms likely to be necessities or luxuries? Why?

Answer:
Luxuries, because the income elasticity of demand is large (greater than 1). In each case, an 18 percent increase in income caused a much larger increase in quantity demanded.

5. For each pair of goods listed below, which good would you expect to have the more price elastic supply? Why?

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a. televisions; beach front property

Answer:
Televisions because the production of televisions can be increased in response to an increase in the price of televisions while the quantity of beach front property is relatively fixed.

b. crude oil over the next week; crude oil over the next year

Answer:
Crude oil over the next year because production of oil over the next year can more easily be increased than the production of oil over the next week.

c. a painting by the famous 19th century Dutch artist Vincent van Gogh; a print of the same painting by van Gogh

Answer:
A van Gogh print because more of them can be created in response to an increase in price while the quantity of an original work is fixed.

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