University of Lethbridge - Department of Economics
ECON 1010 - Introduction to Microeconomics
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Lab #4

Chapter 4 — Elasticity

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) The price elasticity of demand is a units-free measure of the responsiveness of
A) price to changes in quantity demanded.
B) quantity demanded to changes in the price of a substitute or complement.
C) quantity demanded to changes in the price of the good.
D) quantity demanded to changes in income.
E) none of the above.

Answer: C

2) If a 10 percent rise in price leads to an 8 percent decline in quantity demanded, the price elasticity of demand is
A) 0.8.
B) 1.25.
C) 8.
D) 0.125.
E) 80.

Answer: A

3) A price elasticity of demand of 2 means that a 10 percent increase in price will result in a
A) 2 percent decrease in quantity demanded.
B) 20 percent increase in quantity demanded.
C) 5 percent decrease in quantity demanded.
D) 2 percent increase in quantity demanded.
E) 20 percent decrease in quantity demanded.

Answer: E

4) The price of apples falls by 5 percent and quantity demanded increases by 6 percent. This means that the demand for apples is
A) inelastic.
B) perfectly inelastic.
C) perfectly elastic.
D) unitary elastic.
E) elastic.

Answer: E

5) Which one of the following illustrates an inelastic demand?
   A) A price elasticity measure of infinity.
   B) A price elasticity measure of 1.0.
   C) A 10 percent increase in price leads to a 5 percent decrease in quantity demanded.
   D) A 10 percent increase in price leads to a 20 percent decrease in quantity demanded.
   E) A price elasticity measure of 2.0.

Answer: C

6) The demand for good *A* is unit elastic if
   A) a 5 percent increase in the price of *A* results in no change in the quantity demanded.
   B) a 5 percent increase in the price of *A* causes a 10 percent decrease in the quantity demanded.
   C) a 5 percent increase in the price of *A* results in a 5 percent change in the quantity demanded.
   D) a 5 percent decrease in the price of *A* causes an infinite increase in the quantity demanded.
   E) any increase in the price of *A* causes a 1 percent decrease in the quantity demanded.

Answer: C

7) Suppose a rise in the price of a good from $6.50 to $7.50 leads to a decrease in quantity demanded from 10,500 to 9,500 units. In this range of the demand curve, the price elasticity of demand is
   A) 7.
   B) 14.
   C) 0.7.
   D) 1,000.
   E) 1.

Answer: C

8) A fall in the price of a good from $10.50 to $9.50 results in an increase in quantity demanded from 18,800 to 21,200 units. The price elasticity of demand in this part of the demand curve is
   A) 1.2.
   B) 8.0.
   C) 2.4.
   D) 0.8.
   E) 1.25.

Answer: A

9) Suppose the governmet of Nova Scotia wants to reduce the consumption of electricity by 5 percent. The price elasticity of demand for electricity is 0.40. Advise the Nova Scotia government to
   A) raise the price of electricity by 12.5 percent.
   B) stay away from the market and let the market mechanism fix the problem.
   C) raise the price of electricity by 2 percent.
   D) decrease the price of electricity by 2 percent.
   E) decrease the price of electricity by 12.5 percent.

Answer: A

10) Which one of the following will yield a measured price elasticity of demand of 5.0? A 10 percent increase in price results in a
   A) 50 percent decrease in quantity demanded.
   B) 5 percent decrease in quantity demanded.
   C) 0.5 percent decrease in quantity demanded.
   D) 10 percent decrease in quantity demanded.
   E) 2 percent decrease in quantity demanded.

Answer: A

Use the table below to answer the following question(s).

Table 4.1 Demand Schedule for Good *A*.

Price ($ per unit)	Quantity demanded (units)
9.00	0
8.00	2,000
7.00	4,000
6.00	6,000
5.00	8,000
4.00	10,000
3.00	12,000
2.00	14,000
1.00	16,000
0	18,000

11) Refer to Table 4.1. The price elasticity of demand between $6 and $7 is

A) 1.0.
B) 2.0.
C) 0.5.
D) 2.6.
E) 1.3.

Answer: D

12) Demand will be more inelastic the

A) lower the income level.
B) fewer good substitutes that are available.
C) higher the income level.
D) larger the fraction of income spent on the good.
E) longer the passage of time after a price increase.

Answer: B

13) For which one of the following will demand be the most price inelastic?

A) milk
B) Happy Cow brand milk in Regina
C) Happy Cow brand milk
D) Happy Cow brand milk at Ralph's Grocery Store in Regina
E) All of the above will exhibit the same demand elasticity.

Answer: A

Use the figure below to answer the following question(s).

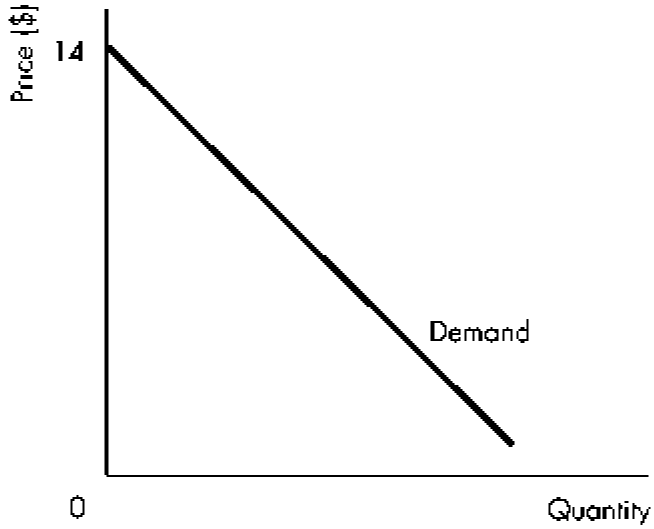

Figure 4.2

14) Figure 4.2 illustrates a linear demand curve. If the price falls from $13 to $11, we know
A) the effect on total revenue cannot be determined.
B) total revenue will decrease.
C) total revenue will increase.
D) the effect on total revenue can be determined only with information on the quantities.
E) total revenue will remain unchanged.

Answer: C

15) If an increase in price causes a decrease in total revenue then price elasticity of demand is
A) negative.
B) equal to 1.
C) greater than zero but less than 1.
D) greater than 1.
E) zero.

Answer: D

16) The demand equation for widgets is $P = 200 - 5Q_D$. The price elasticity of demand between quantity demanded of 23 and 27 is
A) 0.16.
B) zero.
C) 0.6.
D) 1.0.
E) 0.20.

Answer: C

17) Suppose Swiss Chalet in Moncton knows that the demand for their half-chicken meals is elastic. If its manager wants to increase total revenue from half-chicken meal sales, he should

A) decrease the supply of half-chicken meals.
B) do nothing.
C) increase the price of half-chicken meals.
D) keep the price of half-chicken meals fixed.
E) decrease the price of half-chicken meals.

Answer: E

18) Suppose Nunavut government decides to repair Iqaluit roads. One way to generate sufficient funds for this plan is to increase taxes on gasoline prices. The government will be able to raise total revenue from gasoline sales only if the demand for gasoline is

A) unit elastic.
B) perfectly inelastic.
C) inelastic.
D) perfectly elastic.
E) elastic.

Answer: C

19) The longer the time that has elaspsed since a price change the more time consumers will have to respond to price changes . As a result, demand becomes

A) zero.
B) more elastic.
C) unit elastic.
D) perfectly inelastic.
E) more inelastic.

Answer: B

20) The demand for a good is elastic if

A) a decrease in price results in a decrease in total revenue.
B) an increase in price results in an increase in total revenue.
C) the good is a necessity.
D) the demand for the good is very insensitive to changes in price.
E) an increase in price results in a decrease in total revenue.

Answer: E

21) Tina and Brian work for the same recording company. Tina claims they would be better off by increasing the price of their CDs, while Brian claims they would be better off by decreasing the price. We can conclude that

A) Tina thinks the demand for CDs is price inelastic and Brian thinks it is price elastic.
B) Tina thinks the demand for CDs is price elastic and Brian thinks it is price inelastic.
C) Tina thinks the demand for CDs has price elasticity equal to 1 and Brian thinks price elasticity equals zero.
D) Tina and Brian should stick to singing and forget about economics.
E) Tina thinks the demand for CDs has price elasticity of zero and Brian thinks price elasticity equals 1.

Answer: A

22) A good has a price elasticity of 2. If new imports push down its price from $1.20 to $0.80, the percentage change in quantity demanded will be

A) a rise of 2 percent.
B) a fall of 80 percent.
C) a rise of 40 percent.
D) a rise of 80 percent.
E) a fall of 40 percent.

Answer: D

23) The income elasticity of demand equals the percentage change in

A) income divided by the percentage change in quantity demanded.
B) quantity demanded divided by the percentage change in price.
C) quantity demanded divided by the percentage change in income.
D) price divided by the percentage change in income.
E) price divided by the percentage change in quantity demanded.

Answer: C

24) Fred's income has just risen from $840 per week to $1,160 per week. As a result, he decides to purchase 24 percent more bubble gum per week. The income elasticity of Fred's demand for bubble gum is

A) 0.32.
B) 1.33.
C) 0.75.
D) 0.24.
E) 24.

Answer: C

25) Suppose there is a 20 percent increase in income that causes the quantity of good *A* demanded to increase from 19,200 to 20,800 units. The income elasticity of demand for good *A* is

A) 0.05.
B) 1.2.
C) 2.0.
D) 0.8.
E) 0.4.

Answer: E

26) The cross elasticity of demand between any two goods is defined as the

A) percentage change in the price of one good divided by the percentage change in the price of the other good.
B) percentage change in the quantity of a good demanded divided by the percentage change in its price.
C) percentage change in the quantity of a good demanded divided by the percentage change in income.
D) percentage change in the quantity demanded of one good divided by the percentage change in the price of the other good.
E) change in the price elasticity of demand for one good divided by the change in the price elasticity of demand for the other good.

Answer: D

27) If the cross elasticity of demand between goods *A* and *B* is positive, then
   A) *A* and *B* are substitutes.
   B) the demands for *A* and *B* are both price elastic.
   C) *A* and *B* are complements.
   D) the demands for *A* and *B* are both price inelastic.
   E) *A* and *B* are independent from each other.

Answer: A

28) If the quantity demanded of chicken increases by 1.25 percent when the price of beef increases by 2.5 percent, the corss-price elasticity of demand between chicken and beef is
   A) 0.5.
   B) -3.125.
   C) 2.0.
   D) -0.5.
   E) 3.125.

Answer: A

29) If good *A* is a substitute for good *B*, then the cross elasticity is
   A) zero.
   B) infinity.
   C) 12.
   D) between infinity and zero.
   E) less than zero.

Answer: D

30) When price goes from $1.50 to $2.50, quantity supplied increases from 9,000 to 11,000 units. What is the price elasticity of supply?
   A) 0.8.
   B) 2.5.
   C) 0.4.
   D) 4.0.
   E) -0.4

Answer: C

31) The price of good *A* declines by 10 percent and quantity demanded does not change. This implies that the demand for good *A* is
   A) inelastic.
   B) perfectly inelastic.
   C) perfectly elastic.
   D) unit elastic.
   E) elastic.

Answer: B

32) If a 10 percent increase in the price of goods leads to a 10 percent decrease in quantity demanded, its demand curve
   A) is unit elastic.
   B) is a straight line with slope equal to 10.
   C) has slope equal to 1.
   D) is vertical.
   E) is horizontal.

Answer: A

33) If the demand for Salmon fish in Cape Breton Nova Scotia is unit elastic, the price elasticity for salmon fish is
A) 0.10.
B) 100.0.
C) 1.0.
D) 10.0.
E) zero.

Answer: C

34) At a price of $15, Jack demands the same amount of good *A* as when the price rises to $16. Therefore, Jack's demand for good *A* is
A) perfectly inelastic.
B) elastic.
C) unit elastic.
D) perfectly elastic.
E) inelastic.

Answer: A

Use the table below to answer the following question(s).

Table 4.1 Demand Schedule for Good *A*.

Price ($ per unit)	Quantity demanded (units)
9.00	0
8.00	2,000
7.00	4,000
6.00	6,000
5.00	8,000
4.00	10,000
3.00	12,000
2.00	14,000
1.00	16,000
0	18,000

35) Refer to Table 4.1. Demand is unit elastic when the price falls from
A) $8 to $7.
B) $5 to $4.
C) $4 to $3.
D) $7 to $6.
E) $6 to $5.

Answer: B

36) Refer to Table 4.1. If the price of good *A* is cut from $4 to $3,
A) demand is elastic in this range.
B) demand is inelastic in this range.
C) total revenue will remain constant.
D) total revenue will increase.
E) demand is unit elastic in this range.

Answer: B

37) For which one of the following will demand be the most price elastic?

A) daily newspapers
B) Toronto newspapers
C) Ontario newspapers
D) The *Toronto Star*
E) Each of the above will exhibit the same demand elasticity.

Answer: D

38) Suppose this coming winter France will have unusually bad weather, and that next year's wine crop will be substantially reduced. Select the best statement.

A) The initial change in the market will create a surplus of French wine.
B) French wine supply will rise as price rises.
C) If the demand for French wine is elastic, wine producers could make more profits.
D) In the final equilibrium, price and quantity will be higher.
E) none of the above

Answer: E

39) Suppose that Simon Fraser University decides to raise tuition fees in order to increase the total revenue it receives from students. This policy works out only if the demand for a Simon Fraser University education is

A) elastic.
B) perfectly inelastic.
C) inelastic.
D) perfectly elastic.
E) unit elastic.

Answer: C

40) A good is price elastic when the price elasticity of demand is

A) between 1 and zero.
B) equal to zero.
C) equal to infinity.
D) between infinity and 1.
E) equal to 1.

Answer: D

41) A good is unit elastic when the price elasticity of demand is

A) between infinity and 1.
B) between 1 and zero.
C) equal to 1.
D) equal to infinity.
E) equal to zero.

Answer: C

42) A good is price inelastic when the price elasticity of demand is

A) equal to 1.
B) between 1 and zero.
C) equal to zero.
D) equal to infinity.
E) between infinity and 1.

Answer: B

43) The price elasticity of demand for airplane travel one year in advance of the departure date is most likely to be

A) equal to 1.
B) between infinity and 1.
C) between zero and 1.
D) equal to infinity.
E) equal to zero.

Answer: B

44) The price elasticity of demand for airplane travel one week in advance of the departure date is most likely to be

A) equal to infinity.
B) equal to 1.
C) between zero and 1.
D) between infinity and 1.
E) equal to zero.

Answer: C

45) Which of the following will have the most elastic demand?

A) strawberry ice cream
B) frozen desserts
C) ice cream
D) chocolate ice cream
E) Nestle strawberry and chocolate ice creams

Answer: E

46) The price of gasoline increases by 25 percent and remains fixed at the new higher level. All we can say is that

A) initially after the price change, the price elasticity of demand will be less elastic than it will be a few years after the price change.
B) initially after the price change, the price elasticity of demand will be more elastic than it will be a few years after the price change.
C) demand for gasoline will increase after consumers adjust their consumption behaviour to the new higher price.
D) price elasticity of demand for gasoline will decrease in the future.
E) demand for gasoline will decrease after consumers adjust their consumption behaviour to the new higher price.

Answer: A

47) If Saudi Arabia argues that an increase in the supply of oil will decrease total revenue, then Saudi Arabia must believe the demand for oil to be

A) income elastic.
B) unit elastic.
C) inelastic.
D) elastic.
E) income inelastic.

Answer: C

48) You have been hired as an economic consultant by the government of Alberta. The current price of oil is $20 per barrel, with quantity demanded equal to 50 million barrels a day. It is estimated that the elasticity of demand is constant at 0.6. If supply is restricted so that price rises to $30, then quantity demanded will fall by

A) 24 percent, and total revenue will rise.
B) 24 percent, and total revenue will fall.
C) 6 percent, and total revenue will rise.
D) 40 percent, and total revenue will fall.
E) 60 percent, and total revenue will fall.

Answer: A

49) Tina and Brian work for the same recording company. Tina claims they would be better off by increasing the price of their CDs, while Brian claims they would be better off by decreasing the price. We can conclude that

A) Tina and Brian should stick to singing and forget about economics.
B) Tina thinks the demand for CDs is price inelastic and Brian thinks it is price elastic.
C) Tina thinks the demand for CDs has price elasticity of zero and Brian thinks price elasticity equals 1.
D) Tina thinks the demand for CDs is price elastic and Brian thinks it is price inelastic.
E) Tina thinks the demand for CDs has price elasticity equal to 1 and Brian thinks price elasticity equals zero.

Answer: B

50) An increase in the price of good *A* will shift the

A) demand curve of good *B* rightward if the cross elasticity of demand between *A* and *B* is negative.
B) supply curve of *B* rightward if the cross elasticity of demand between *A* and *B* is positive.
C) supply curve of *B* rightward if the cross elasticity of demand between *A* and *B* is negative.
D) demand curve of *B* rightward if the income elasticity of demand for *B* is positive.
E) demand curve of good *B* rightward if the cross elasticity of demand between *A* and *B* is positive.

Answer: E

51) Suppose the cross elasticity of demand between peanut butter and jelly is negative, then

A) an increase in the price of peanut butter will cause an increase in the equilibrium price of jelly.
B) an increase in the price of peanut butter will cause a decrease in the equilibrium price of jelly.
C) a decrease in the price of peanut butter will cause a decrease in the equilibrium price of jelly.
D) peanut butter and jelly are substitutes.
E) an increase in the price of peanut butter will have no effect on the equilibrium price of jelly.

Answer: B

52) The cross elasticity of demand for good A with respect to the price of good *B* is -1.5. A 10 percent rise in the price of good *B* will lead to a

A) fall of 15 percent in the quantity demanded of *A*.
B) fall of 6.7 percent in the quantity demanded of *A*.
C) rise of 6.7 percent in the quantity demanded of *A*.
D) rise of 15 percent in the quantity demanded of *A*.
E) rise of 1.5 percent in the quantity demanded of *A*.

Answer: A

53) A good has an income elasticity of +0.5. A rise in income from $15,000 to $25,000 will lead to a
A) 2.5 percent rise in the quantity demanded of the good.
B) 25 percent fall in the quantity demanded of the good.
C) 5 percent rise in the quantity demanded of the good.
D) 5 percent fall in the quantity demanded of the good.
E) 25 percent rise in the quantity demanded of the good.

Answer: E

54) When margarine was first introduced in Ontario, butter producers got a law passed that required margarine to be a distinctly different colour than butter? much paler or much darker. The effect of such a law is to
A) reduce the degree of substitution of margarine for butter.
B) make butter a luxury good.
C) make butter more price elastic.
D) make the cross elasticity of the two goods positive.
E) all of the above.

Answer: A

55) A negative value for
A) income elasticity of demand implies an error in your calculation.
B) price elasticity of supply implies an upward-sloping supply curve.
C) cross elasticity of demand implies complementary goods.
D) income elasticity of demand implies a normal good.
E) price elasticity of demand implies an inferior good.

Answer: C

56) If Mr. Brown's income increases by 12 percent and as a result his quantity demanded of DVDs increases by 4 percent, Mr. Brown's income elasticity of demand for DVDs is
A) 48.0.
B) 0.33.
C) -0.33.
D) -3.0.
E) 3.0.

Answer: B

57) The elasticity of supply is a (units-free) measure of the responsiveness of
A) quantity supplied to changes in price.
B) price to changes in quantity supplied.
C) quantity supplied to changes in demand.
D) quantity demanded to changes in supply.
E) quantity supplied of one good to changes in the price of another good.

Answer: A

58) If a rise in the price of good *A* from $9 to $11 results in an increase from 9,500 to 10,500 units supplied, then
A) supply is inelastic.
B) supply is unit elastic.
C) supply is elastic.
D) demand is elastic.

Answer: A

59) The supply equation for widgets is $P = 100 + 10Q_S$. The elasticity of supply between quantity supplied of 9 and 11 is
A) 2.0.
B) 0.1.
C) 0.
D) 10.
E) 1.0.
Answer: A

60) The supply equation is P = -12 + 0.10 Qs. The elasticity of supply between the quantity supplied of 200 units and 240 units is
A) 4.5.
B) 0.22.
C) 0.45.
D) 1.00.
E) 2.2.
Answer: C