Chapter 3:

5.4:

Diagram, engineering drawing, radar chart

Description automatically generated

a) The risk of heart attack will change people's preferences and this will ause demand to go down. this wil then lead to a decrease in equilibrium quantity and price.

b) The decrease in price of complementary product will lead to increase in quantity demanded thus increasing equilibrium price and quantity.

c) The increase in price of chicken feed will lead to increase cost of supply and this will decrease in supply hence lower quantity and higher prices.

d) The demand for eggs will increase. Equilibrium price and quantity will also rise

e) Supply will increase and equilibrium price will decrease.

5.5

A)

The following table with quantity demand and supply information:

The QD will be derived when inserting the price 5:

Qd = 100 − 20P

Qd = 100 − 20 (5)

Qd = 100 − 100

Qd = 0

Qd = 100 - 20PQd = 100 - 20 5Qd = 100 - 100Qd = 0

The QS will be derived when inserting the price 5:

Qs = 10 + 40P

Qs = 10 + 40 (5)

Qs = 10 + 200

Qs = 210

Qs = 10 + 40P

Qs = 10 + 40(5)

Qs = 10 + 200

Qs = 210

Therefore, the table will be filled as shown through above calculations:

Tabular Data:

Thus, in the above-shown table, as demand is less or negative to that of supply, there occurs the situation of EXCESS SUPPLY.

B)

equilibrium is that point where the quantity demand and quantity supply are equal:

Qd=QS

100-20P=10+40P100−20P=10+40P

90=60P90=60P

P=1.5 (EQUILIBRIUM -PRICE)=1.5(EQUILIBRIUM−PRICE)

Q=70 (EQUILIBRIUM -QUANTITY)Q=70(EQUILIBRIUM−QUANTITY)

C)

Diagram

Description automatically generated

5.7:

a) Given that,

Market demand for pizza Q d = 300−20P*Qd*=300−20*P*

Market supply for pizza   Qs = 20P-100*Qs*=20*P*−100

Graphical presentation of the equilibrium price

Chart, line chart

Description automatically generated

b)

Qd=Qs\\300-20p=20p-100\\300+100=20p+20p\\P=10\\Q=300-20(10)\\Q=100*Qd*=*Qs*300−20*p*=20*p*−100300+100=20*p*+20*pP*=10*Q*=300−20(10)*Q*=100

c)

Qd = 300−20P \\ Qd = 300−20(15) = 300 − 300 = 0\\ Similarly\\ Qs = 20P−100\\ Qs = 20(15)−100 = 300 − 100 = 200*Qd* =300−20*PQd* =300−20(15) =300−300= 0*SimilarlyQs*= 20*P*−100*Qs*=20(15)−100=300−100=200

Thus at price 15.0 the leading to a situation of surplus in the economy.

At this level since the demand is less than the supply, the price will start falling until the Qd = Qs.*Qd*=*Qs*.

d)

Suppose the price of the hamburgers, a substitute for pizza doubles, This leads to a doubling of the demand for pizza. Thus, the new market demand will be twice the old demand i.e Qd' = 2Qd.*Qd*′=2*Qd*.

Qd' = 2(300-2P)\\ = 600 - 40P*Qd*′=2(300−2*P*)=600−40*P*

e)

Qd' = Qs*Qd*′=*Qs*

600 - 40P = 20P - 100 \\ 60P = 700,\\ P = 11.67 ≈12\\ Qd' = 600 - 40P \\= 600 - 40(11.67) \\= 600 - 466.8 \\ = 133.2 ≈ 133600−40*P*=20*P*−10060*P*=700,*P*=11.67≈12*Qd*′=600−40*P*=600−40(11.67)=600−466.8=133.2≈133

Thus the new equilirbum price is approx 12 whereas the new equilibrium quantity is 133.

5.9:

Chart, line chart

Description automatically generated

The demand for the good is an inverse relationship between price and quantity. The equation of the demand curve gives the quantity demanded as a function of price. The graphical relationship between price and quantity demanded is depicted by the demand curve. Any point on the demand curve shows the number of consumer demands for any particular price. The inverse demand curve represents price as a function of quantity.

The supply for good is the direct relationship between price and quantity. The equation of the supply curve gives the quantity supplied as a function of price. The graphical relationship between price and quantity supplied is depicted by the supply curve. Any point on the supply curve shows the quantity producers supply for any particular price. The inverse supply curve represents price as a function of quantity.

The equilibrium is the point at which the quantity demanded by the consumer equals the quantity supplied by the producers at a particular price. It is the point of intersection between demand and supply curve.

The demand and supply of the wireless keyboard are given in the figure below:

The equilibrium occurs where the demand curve intersects the supply curve. This occurs at point E. At point E, the equilibrium quantity is 12 units and the equilibrium price is $50 per unit.

Suppose that the market price is set at $60. At $60, from the demand curve, the quantity demanded is 8 units and the quantity supplied is 15 units. Therefore, there will be excess supply in the economy of 7 units. This excess supply will prompt the supplier to decreases price of the good. The decrease in price will increase quantity demanded. The economy will move back to the equilibrium point E.

Similarly, suppose that the market price is set at $30. At $30, from the demand curve, the quantity demanded is 20 units and the quantity supplied is 6 units. Therefore, there will be excess demand in the economy of 14 units. This excess demand will push the price up as some consumers will be willing to pay more for the good. The increase in price will increase quantity supplied. The economy will move back to the equilibrium point E.