Answer on Question 72540-Economics - Microeconomics

Monopolist with a constant MC of 6, sells products in 2 separate markets.

Market 1: P1 = 24 - Q1

Market 2: P2 = 12 - 0.5Q2

(a) Calculate profit-maximizing price and quantity in these 2 market.

(b) Calculate monopolist's total profit

(c) Calculate DWL in market 1

Solution.

a) Profit-maximizing price and quantity are found under such conditions:

MR1(Q1)=MR2(Q2)=MC

And, MR=(PQ)'

So,

MR1(Q1)=((24-Q1)*Q1)'=24-2Q1

MR2(Q2)=((12-0.5Q2)*Q2)'=12-Q2

24-2Q1=12-Q2=6;

24-2Q1=6

Q1=9

12-Q2=6

Q2=6

P1=24-9=15

P2=12-0.5*6=9

b) Monopolists total profit is

П=TR-TC=(15*9+6*9)-6*(6+9)=189-90=99

c) DWL in market 1 is

½*(18-9)*(15-6)=40.5 (where 18 is the quantity of equilibrium when P=MC=6 (24-6=18)

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