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date

No.

隨堂6 設獨占廠商所面對的需求函數為 $P=120-Q$ 成本函數為 $TC=2Q^2$

(A) 求均衡下的價格、產量、利潤、需求彈性與獨占力

$$\max \pi = TR - TC$$

$$MC = 4Q$$

$$P = 120 - Q$$

$$MR = MC$$

$$MR = 120 - 2Q$$

$$P^* = 100$$

$$TR = 120Q - Q^2$$

$$4Q = 120 - 2Q$$

$$\pi^* = 100 \times 20 - 2(20)^2$$

$$6Q = 120$$

$$Q^* = 20$$

$$= 1200$$

$$\text{獨占力} = \frac{P - MC}{P} = \frac{100 - 80}{100} = \frac{1}{5} \Rightarrow \epsilon^d = 5$$

$$\text{Ans: } P^* = 100, Q^* = 20, \pi^* = 1200$$

$$\text{獨占力} = \frac{1}{5}, \epsilon^d = 5$$

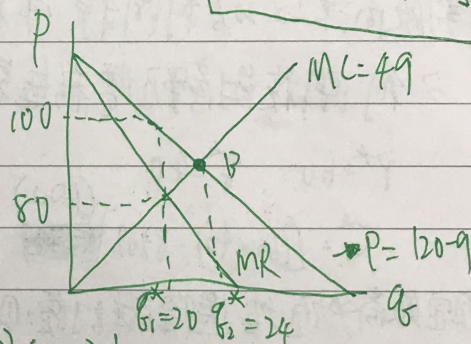
(B) 求獨占的無謂損失

$$MC = MR = 4Q = 120 - 2Q$$

$$6Q = 120 \quad Q = 20 \rightarrow \text{代入} \Rightarrow MC = 4Q$$

$$MC = 80$$

$$P^* = 120 - 20 = 100$$



$$P = MC = 4Q = 120 - Q \quad \text{無謂損失} = (24 - 20) \times (100 - 80) \times \frac{1}{2}$$

$$Q_2^* = 24$$

$$= 40$$

(C) 若政府按MC訂價法來管制，均衡下價格、產量、利潤及無謂損失為多少？

上圖 B點

$$\pi^* = (96 \times 24) - 2(24)^2 = 1152$$

$$120 - Q = 4Q$$

$$P = MC$$

$$\text{無謂損失} = 0$$

$$TS = 120 \times 24 \times \frac{1}{2} = 1440$$

$$Q^* = 24$$

$$P^* = 96$$

$$\text{Ans: } P^* = 96, Q^* = 24, \pi^* = 1152, \text{無謂損失} = 0$$

(D) 若政府按AC訂價法來管制，均衡下價格、產量、利潤及無謂損失為多少？

$$P = AC = 2Q$$

$$\pi^* = (80 \times 40) - 2(40)^2$$

$$P = 120 - Q = 2Q$$

$$= 3200 - 3200$$

$$3Q = 120 \quad Q = 40$$

$$= 0$$

$$P = 80$$

$$\text{AC訂價法: } TS = CS + PS = CS + \pi = CS + 0$$

$$CS = 800$$

$$\text{無謂損失} = 1440 - 800 = 640$$

$$\text{Ans: } P^* = 80, Q^* = 40, \pi^* = 0$$

$$\text{無謂損失} = 640$$