

(E) 若政府對廠商課以 10% 的從價稅率，求稅後均衡價格、產量及利潤

$$(1-10\%) MR = MC \quad 0.9 \times (100 - 2Q) = 20 \Rightarrow Q^* = \frac{40}{0.9} \approx 44.44$$

$$P^* = 100 - 2Q^* = 100 - 2 \times \frac{40}{0.9} = 100 - \frac{80}{0.9} = 100 - 88.89 = 11.11$$

$$\pi^* = \left(\frac{40}{0.9} \times \frac{350}{9} \times 0.9 \right) - 30 - \left(20 \times \frac{40}{0.9} \right) = 133$$

P=0.1

(F) 若政府對廠商課以 1000 元的定額稅，求稅後均衡價格、產量及利潤

⇒ 定額稅對產量及價格均無影響

$$P^* = 60 \quad Q^* = 40 \quad \pi^* = (60 \times 40) - 830 - 1000 = 570$$

$$\text{Ans: } P^* = 60, Q^* = 40, \pi^* = 570$$

(G) 若政府對廠商課以 20% 利潤稅，求稅後均衡價格、產量及利潤

⇒ 利潤稅對產量及價格無影響

$$P^* = 60 \quad Q^* = 40$$

$$\pi^* = [(60 \times 40) - 830] \times (1-0.2) = 1256 \quad \text{Ans: } P^* = 60, Q^* = 40, \pi^* = 1256$$

(H) 若政府規定廠商必須按週際成本訂價，則廠商會有多少損失？無謂損失 = ?

$$P = MC = 100 - Q = 20 \quad Q^* = 80 \quad P^* = 20$$

$$(80 \times 20) \times (30 + 20 \times 80) = -30 \quad \text{無謂損失} = 0$$

Ans: 0

隨 3. 獨占廠商需求函數為 $P = 280 - Q$ ，而由 A-B 兩個工廠來生產產品，兩個工廠成本函數為：

$$TC_A = 2Q_A^2, \quad TC_B = 4Q_B^2 \quad \text{求均衡價格、兩工廠產量} = ?$$

$$MR = TR - TC$$

$$= PQ - TC_A - TC_B$$

$$= (280 - Q_A - Q_B)(Q_A + Q_B) - 2Q_A^2 - 4Q_B^2$$

$$MR = MC_A \quad 280 - 2(Q_A + Q_B) = 4Q_A$$

$$MR = MC_B \quad 280 - 2(Q_A + Q_B) = 8Q_B$$

$$\begin{cases} 280 - 2Q_A - 2Q_B = 4Q_A \\ 280 - 2Q_A - 2Q_B = 8Q_B \end{cases}$$

$$\Rightarrow Q_A = 40$$

$$Q_B = 20$$

$$P^* = 280 - 40 - 20 = 220$$

$$\text{Ans: } P^* = 220, Q_A = 40, Q_B = 20$$