

(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

$$(1-10\%)MR = MC$$

$$0.9 \times (100 - q) = 20 \Rightarrow q^* = \frac{350}{9} \quad \text{代入}$$

$$\pi^* = \left(\frac{350}{9} \times \frac{550}{9} \times 0.9 \right) - 30 - \left(20 \times \frac{350}{9} \right) = 131$$

$$A: p^* = \frac{550}{9}, q^* = \frac{350}{9}, \pi^* = 131$$

(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

$$p^* = 60, q^* = 40$$

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

$$A: p^* = 60, q^* = 40, \pi^* = 570$$

(G) 若政府對廠商課以 20% 的利潤稅，求稅後均衡價格、產量及利潤

利潤稅對產量及價格均無影響

$$p^* = 60, q^* = 40$$

$$\pi^* = [(60 \times 40) - 830] (1 - 0.2) = 1256$$

$$A: p^* = 60, q^* = 40, \pi^* = 1256$$

(H) 若政府規定廠商必須按邊際成本訂價，則廠商會有多少損失？無謂損失等於多少？

$$P = MC = 100 - q = 20$$

$$q^* = 80, p^* = 20$$

$$(80 \times 20) \times (30 + 20 \times 60) = 30$$

無謂損失等於 0

$$A: 0$$

隨 3. 獨占廠商需求函數為 $P = 280 - q$ ，而具有 A-B 兩個工廠來生產產品，兩工廠的成本函數分別為： $TC_A = 2q_A^2$ ， $TC_B = 4q_B^2$ ，求均衡價格與兩工廠的產量。

$$\text{Max } \pi = TR - TC$$

$$= PQ - TC_A - TC_B$$

$$= (280 - q_A - q_B)(q_A + q_B) - 2q_A^2 - 4q_B^2$$

$$MR = MC_A \quad 280 - 2(q_A + q_B) = 4q_A$$

$$MR = MC_B \quad 280 - 2(q_A + q_B) = 8q_B$$

$$\begin{cases} 280 - 2q_A - 2q_B = 4q_A \\ 280 - 2q_A - 2q_B = 8q_B \end{cases} \Rightarrow$$

$$\begin{cases} 280 - 2q_A - 2q_B = 4q_A \\ 280 - 2q_A - 2q_B = 8q_B \end{cases}$$

\Rightarrow

$$\begin{cases} 6q_A + 2q_B = 280 \\ 2q_A + 10q_B = 280 \end{cases}$$

$$\Rightarrow q_A = 40$$

$$q_B = 20$$

$$p^* = 280 - 40 - 20$$

$$A: p^* = 220, q_A = 40, q_B = 20, \pi = 220$$

$$\begin{array}{rcl} 6q_A + 2q_B & = & 280 \\ - (2q_A + 10q_B) & = & 280 \\ \hline 28q_A + 10q_B & = & 1400 \\ 28q_A & = & 1120 \end{array}$$