

隨 3.  $D: P = 280 - q$ ,  $TCA = 2q_A^2$ ,  $TCB = 4q_B^2$

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

$$TR = 280q - q^2 = (280 - q_A - q_B)(q_A + q_B)$$

$$MR = MCA$$

$$\begin{cases} 280 - 2(q_A + q_B) = 4q_A \\ MR = MCB \\ 280 - 2(q_A + q_B) = 8q_B \end{cases}$$

$$\Rightarrow q_A^* = 40, q_B^* = 20$$

$$P = 220$$

隨 5.  $P = 100 - q$ ,  $C = 30 + 20q$

(A)  $P^*, q^*, \pi^*$

$$TR = PQ = 100q - q^2$$

$$\begin{cases} MR = 100 - 2q \\ MC = 20 \end{cases} \Rightarrow q^* = 40, P^* = 60$$

$$\pi^* = 2400 - 820 = 1570$$

(D) 政府課 10 元從量稅,  $P^*, q^*, \pi^*$

$$MR = MC + 10 \Rightarrow q^* = 35, P^* = 65$$

$$\pi^* = 35 \times 65 - (30 + 20 \times 35) - 10 \times 35 = 1195$$

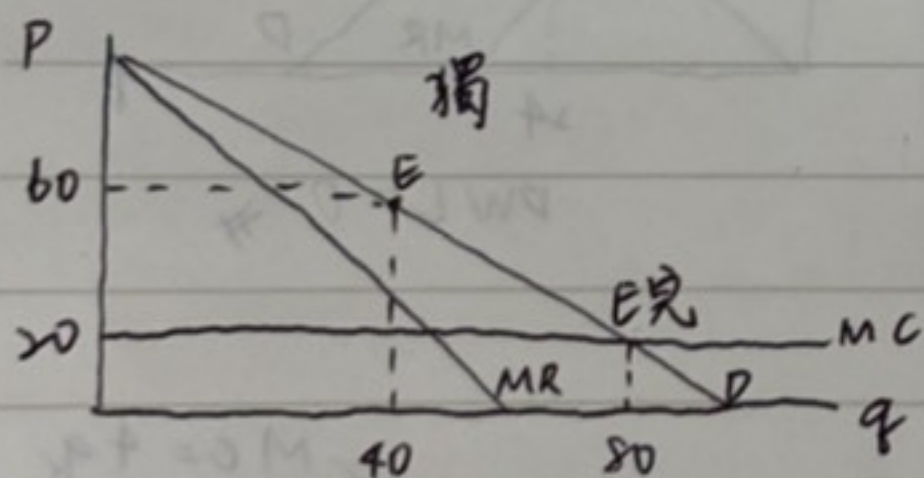
(E) 課 10% 從價稅,  $P^*, q^*, \pi^*$

$$(1 - 10\%) MR = MC \Rightarrow q^* = \frac{350}{9}$$

$$MR = (1 + 10\%) MC \quad P^* = \frac{6500}{9}$$

$$\pi^* = \left( \frac{350}{9} \times \frac{350}{9} \times 0.9 \right) - \left[ 30 + 20 \times \frac{350}{9} \right] = 1720$$

(B) 獨佔造成 DWL



$$PWL = \frac{1}{2} (40 \times 40) = 800$$

(P) 課 1000 定額稅,  $P^*, q^*, \pi^*$

定額稅對 MR, MC 無影響

$$q^* = 40, P^* = 60, \pi^* = 1570$$

(C) Lerner Index 獨佔力

$$L = \frac{P - MC}{P} = \frac{60 - 20}{60} = \frac{2}{3}$$

(G) 課 20% 利潤稅,  $P^*, q^*, \pi^*$

利潤稅對 MR, MC 無影響

對  $\pi$  有 "

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

$$\pi^* = 1570 \times 0.8 = 1256$$