隔 3 $D: P = 280 - Q$, $TC_A = 2q_A^2$, $TC_B = 4q_B^2$

# $MAX\pi = TR - TC$

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

$MR = MC_A$

$$\begin{cases} 280 - 2(q_A + q_B) = 4q_A \\ MR = MC_B \\ 280 - 2(q_A + q_B) = 8q_B \end{cases} \Rightarrow q_A^* = 40,\ q_B^* = 20\ \#$$

$P = 220\ \#$

隔 5 $P = 100 - Q$, $C = 20 + 20Q$

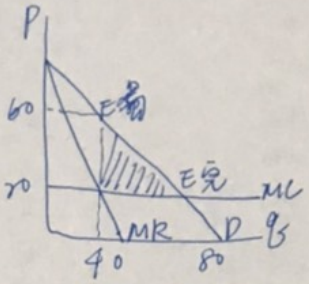
(A) $P^*, Q^*, \pi^*$ # $MAX\pi = TR - TC$

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

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

$\pi^* = 2400 - 830 = 1570$

(B) 獨占造成 DWL




(C) Lerner Index 獨占力

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

(D) 政府課 10 元從量稅, $P^*, Q^*, \pi^*$

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

$\pi^* = 35 \times 65 - (1300 + 20 \times 35) - \boxed{10 \times 35} = 1195$

(E) 課 10% 從價稅, $P^*, Q^*, \pi^*$

(1 - 10%) $MR = MC \Rightarrow Q^* = \frac{350}{9}$ $P^* = \frac{6500}{9}$

or $MR = (1 + 10\%)MC$

$\pi^* = \left(\frac{350}{9} \times \frac{650}{9} \times 0.9\right) - \left[1300 + 20 \times \frac{350}{9}\right] = 1720$

(F) 課 1000 定額稅 $P^*, Q^*, \pi^*$

# 定額稅對 MR, MC 無影響

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

(G) 課 20% 利潤稅, $P^*, Q^*, \pi^*$

# 利潤對 MR, MC 無影響, 對 $\pi$ 有影響

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

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

(H) 以完競定價, 損失? DWL?

$P = MC = 20 \Rightarrow Q^* = 80,\ P^* = 20$

$\pi^* = -1300$

DWL = 0