

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

$Max \pi = TR - TC$

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

$MR = MC_A$

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

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

$P = 220$

隨5. $P = 100 - q$, $C = 30 + 20q$

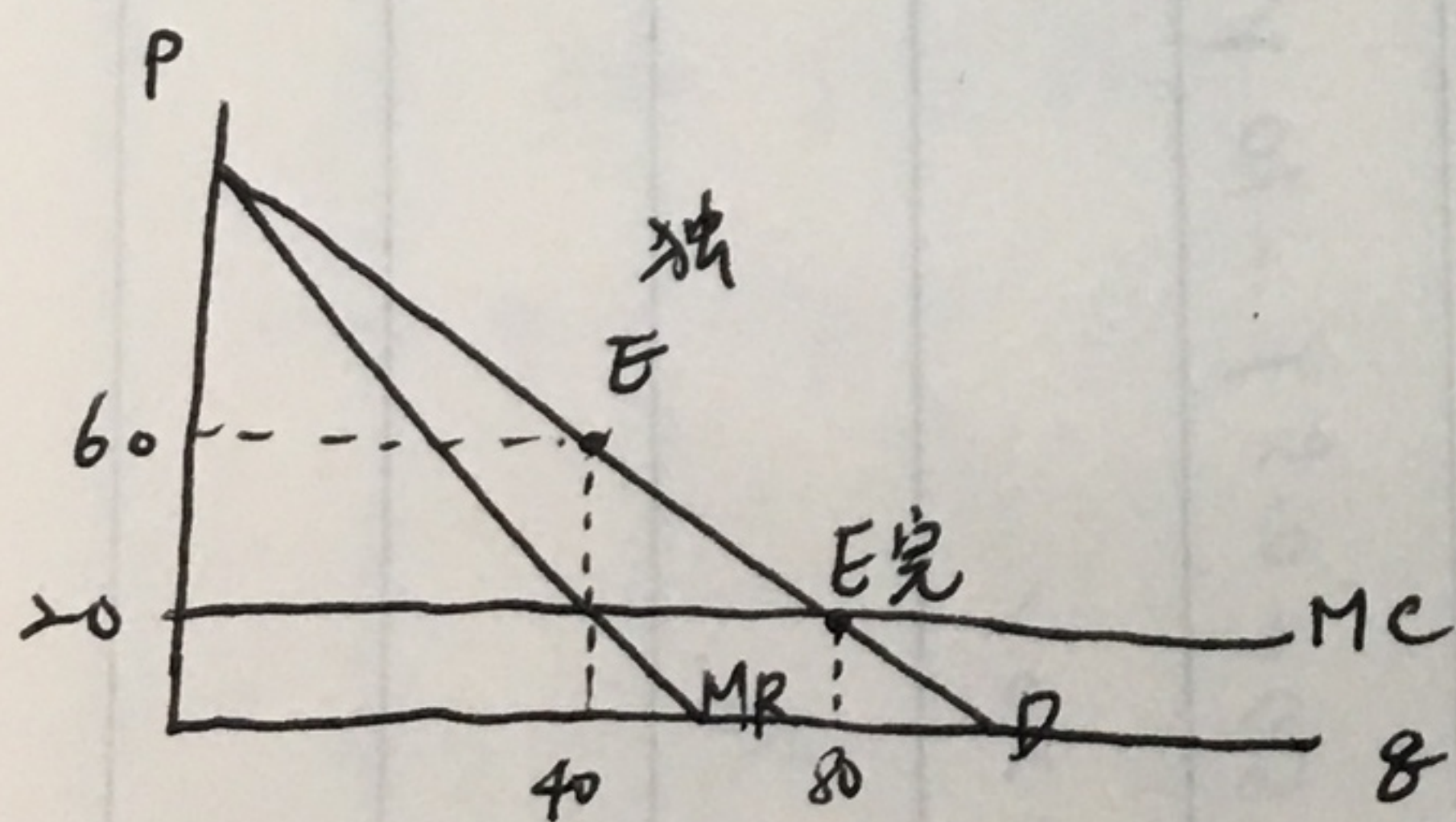
(A) P^*, q^*, π^*

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

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

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

(B) 独占造成 DWL



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

(C) Lerner Index 独占

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

(D) 政府課10元從量稅, P^*, q^*, π^*

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

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

(E) 課10%從價稅, P^*, q^*, π^*

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

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

$\pi^* = \left(\frac{350}{9} \times \frac{650}{9} \times 0.9 \right) - [30 + 20 \times \frac{350}{9}] = 1720$

(F) 課1000定額稅, P^*, q^*, π^*

定額稅對MR, MC無影響

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

(G) 課20%利潤稅, P^*, q^*, π^*

利潤稅對MR, MC無影響

對 π 有 "

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

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