

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

$$TR = P \times Q = 120q - q^2$$

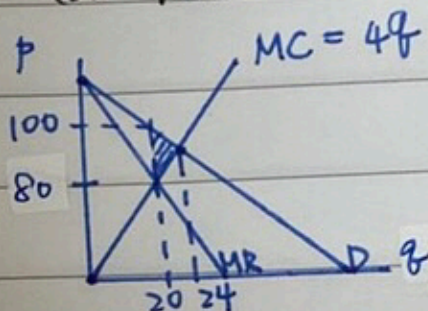
$$\begin{cases} MR = 120 - 2q \\ MC = 4q \end{cases} \Rightarrow \begin{aligned} q^* &= 20 \# \\ P^* &= 100 \# \end{aligned}$$

$$\pi^* = 2400 - 400 - 800 = 1200 \#$$

$$L = \frac{P - MC}{P} = \frac{100 - 80}{100} = \frac{1}{5} \#$$

$$\varepsilon_d = \frac{5}{1} = 5 \#$$

(B) DWL



(C) 以 MC 訂價,  $P^*, q^*, \pi^*, DWL$ .

$$P = MC \text{ [完競]}$$

$$\begin{aligned} 120 - q &= 4q \Rightarrow q^* = 24 \# \\ P^* &= 96 \# \end{aligned}$$

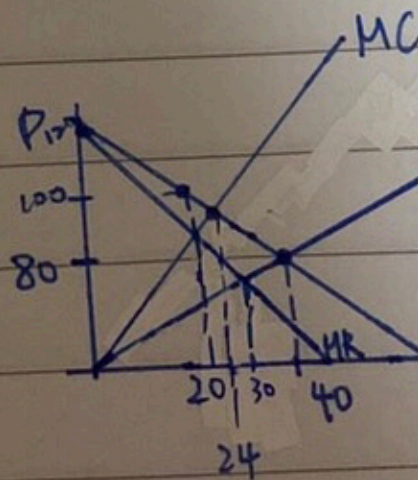
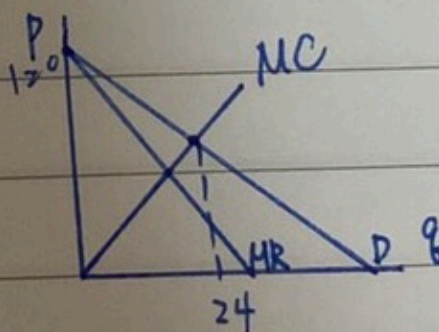
$$\pi^* = 96 \times 24 - 2 \times 24^2 = 1152 \#$$

(D) 以 AC 訂價,  $P^*, q^*, \pi^*, DWL$

$$P = AC$$

$$\begin{aligned} 120 - q &= 2q \Rightarrow q^* = 40 \# \\ P^* &= 80 \# \end{aligned}$$

$$\pi^* = 40 \times 80 - 2 \times 40^2 = 0 \#$$



$$DWL = \frac{120 \times 24}{2}$$