

例6 $D: p = 120 - q$, $TC = 2q^2$

(A) p^*, q^*, π^*, L

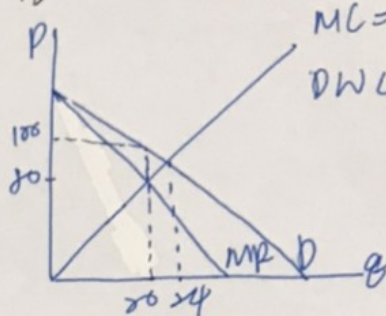
$$TR = p \times Q = 120q - q^2$$

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

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

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

(B) DWL



$$MC = 4q$$

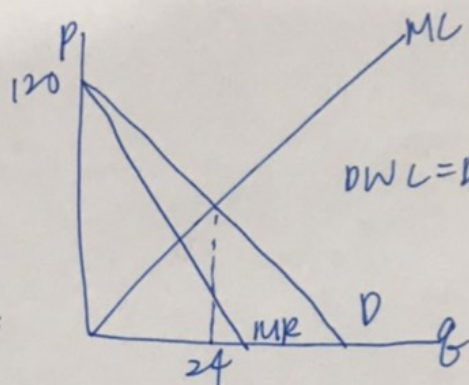
$$DWL = \frac{20 \times 4}{2} = 40 \text{ #}$$

(C) 以 MC 訂價, p^*, q^*, π^*, DWL
 $p = MC$ [完全競爭]

$$120 - q = 4q \Rightarrow q^* = 24 \text{ #}$$

$$p^* = 96 \text{ #}$$

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



$$DWL = 0 \text{ #}$$

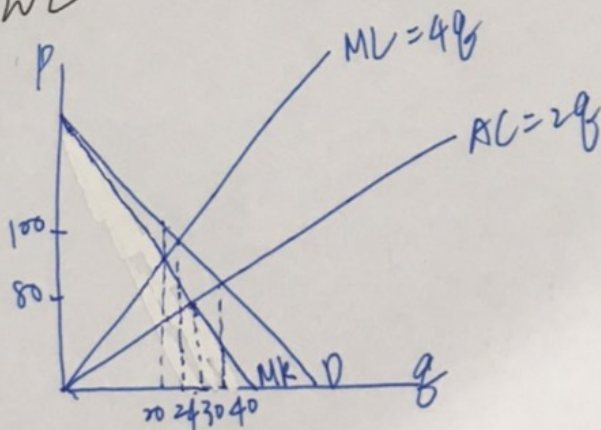
(D) 以 AC 訂價, p^*, q^*, π^*, DWL

$$p = AC$$

$$120 - q = 2q \Rightarrow q^* = 40 \text{ #}$$

$$p^* = 80 \text{ #}$$

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



$$DWL = \frac{120 \times 24}{2} - \frac{40 \times 40}{2} = 640 \text{ #}$$