隨6 $D: P = 120 - Q$，$TC = 2Q^2$

(A) P^*、Q^*、π^*、Ed、L

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

$\begin{cases} MR = 120 - 2Q \\ MC = 4Q \end{cases} \Rightarrow Q^* = 20\#$

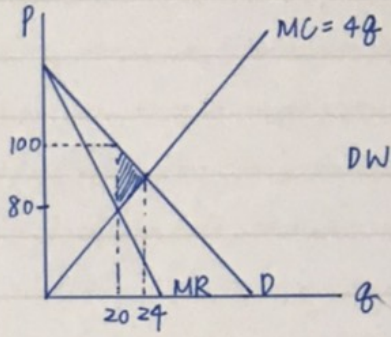
$P^* = 100\#$

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

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

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

(B) DWL



$DWL = \frac{20 \times 4}{2}$

$= 40\#$

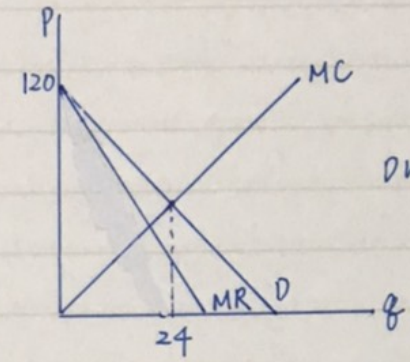
(C) 以MC訂價，P^*、Q^*、π^*、DWL

$P = MC$ [完全競爭]

$120 - Q = 4Q \Rightarrow Q^* = 24\#$

$P^* = 96\#$

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



$DWL = D\#$

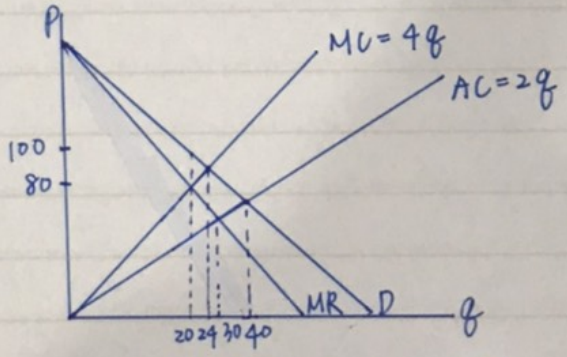
(D) 以AC訂價，P^*、Q^*、π^*、DWL

$P = AC$

$120 - Q = 2Q \Rightarrow Q^* = 40\#$

$P^* = 80\#$

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



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