

例6 $D=P=120-Q$, $TC=2Q^2$

(A) P^*, Q^*, π^*, Ed, L

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

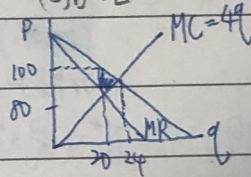
$MR=120-2Q$ $MC=4Q$
 $Q^*=20\#$ $P^*=100\#$

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

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

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

(B) DWL



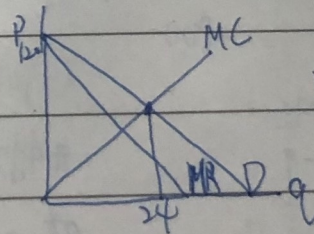
$DWL = \frac{20 \times 40}{2} = 400\#$

(C) 以 MC 訂價, P^*, Q^*, π^*, DWL

$P=MC$ [完競]

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

$P^*=96\#$



$DWL=0\#$

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

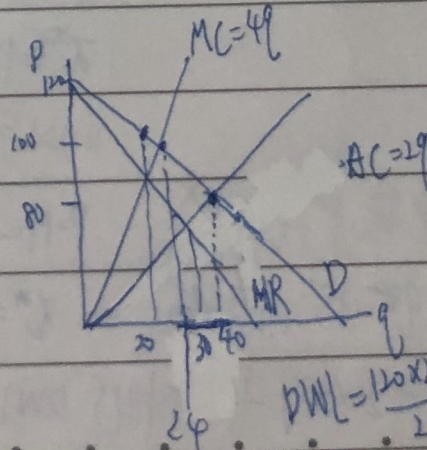
(D) 以 AC 訂價 P^*, Q^*, π^*, DWL

$P=AC$

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

$P^*=80\#$

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



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