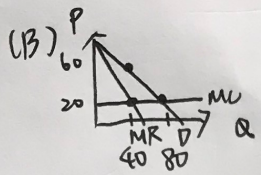
4. (A) $MR=MC \Rightarrow 100-2q=20 \Rightarrow q^*=40$; $p^*=60$;
$\pi = 60\times40-30-800=1570$

(B)


$MC=20=P \Rightarrow q=80$

$DWL=\frac{(80-40)(60-20)}{2}=800$

(C) $|\varepsilon_d|=\frac{dQ/Q}{dP/P}=\frac{60}{40}=1.5$; $L.I.=\frac{1}{|\varepsilon_d|}=0.667$

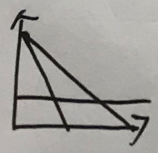
(D) $MR=MC+10 \Rightarrow 100-2q=30 \Rightarrow q^*=35$; $p^*=65$;
$\pi = 2275-1080=1195$

(E) $(1-10\%)MR=MC \Rightarrow 0.9(100-2q)=20 \Rightarrow q^*=38.889$
$p^*=61.11$; $\pi=2376.55-807.78=1568.77$

(F) $100-2q=20 \Rightarrow q^*=40$; $p^*=60$; $\pi=2400-(1000+30+800)$
$=570$

(G) $q^*=40$; $p^*=60 \Rightarrow \pi=0.8(1570)=1256$

(H) $P=MC$



$100-q=20 \Rightarrow q^*=80$; $p^*=20$

$(80\times20)-(30+20\times80)=-30$

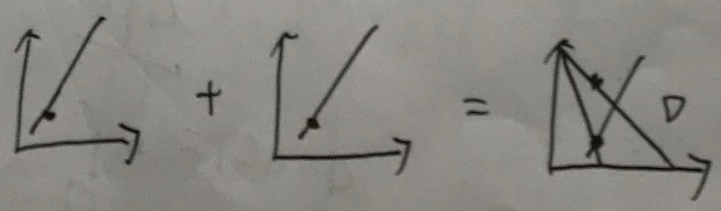
$DWL=0$

5. $p=4MC$

$\frac{p-MC}{p}=\frac{1}{|\varepsilon_d|} \Rightarrow \frac{p-\frac{1}{4}p}{p}=\frac{1}{|\varepsilon_d|}=\frac{3}{4}$

$\Rightarrow |\varepsilon_d|=\frac{4}{3}$

7.



$MC_A=4q_A=MC_B=8q_B=MR=280-2q$

$q_A=2q_B$; $280-2(q_A+q_B) \Rightarrow 280-2(3q_B)=8q_B$

$P=220$ $\Rightarrow 20=q_B$; $q_A=40$