Week 12

4. (A) $MR = 100 - 2q = 20$

$MC \Rightarrow q^* = 40,\ P^* = 60,\ M_L = \frac{60-20}{60} = \frac{2}{3}$

$\pi^* = (40 \times 60) - (30 + 20 \times 40) = 1570$

(B) $\frac{1}{2}(40 \times 60) = 800$

(C) $\frac{P - MC}{P} = \frac{60-20}{60} = \frac{2}{3}$

(D) $MR = MC + 10$

$100 - 2q = 30 \Rightarrow q^* = 35,\ P^* = 65$

$\pi = (35 \times 65) - (30 + 20 \times 35) - (10 \times 35) = 1195$

(E) $(1 - 10\%) MR = MC \Leftrightarrow 0.9(100 - 2q) = 20$

(F) $\pi^* = 1570 - 1000 = 570$

(G) $q^* = 40,\ P^* = 60$

$0.8 \times 1570 = 1256$

(H) $P = MC \Leftrightarrow 100 - 2q = 20$

$q^* = 80\quad P^* = 20$

$(80 \times 20) - (30 + 20 \times 80) = -30$

無謂損失 ∞

5. $MR = P\left[1 - \frac{1}{E_d}\right]$

$\Leftrightarrow MR = 4MC\left[1 - \frac{1}{E_d}\right]$

$\Leftrightarrow MC = 4MC\left[1 - \frac{1}{E_d}\right)$

$E_d = \frac{4}{3}$

6 对

設 $P = a - bq,\ MR = a - 2bq$

$MR = MC + t \Leftrightarrow a - 2bq = k + t \Leftrightarrow q^* = \frac{a-(k+t)}{2b}$

$P^* = a - \frac{a-(k+t)}{2} = \frac{a+(k+t)}{2}$

當 $t = 0\quad P_0 = \frac{a+k}{2},\ P^* - P_0 = \Delta P = \frac{t}{2}$

7. 令 $MC_A = MC_B = MR,\ 4q_A = 8q_B = 280 - 2q_A - 2q_B$

$q_A = 4,\ q_B = 20,\ P = 220.$