week 14　斜瑞廷

習題 3.

(A) $MR_A = MC$ $100 - 2q_A = 20 \Rightarrow q_A = 40 \Rightarrow P_A = 60$

$MR_B = MC$. $80 - 2q_B = 20 \Rightarrow q_B = 30 \Rightarrow P_B = 50$

$TC = 60 \times 40 + 50 \times 30 - 20 \times (40 + 30)$

$= 2500 = PS$

$CS = CS_A + CS_B = 800 + 450 = 1250$

$TS = CS + PS = 3750$ #

(B) 先將需求水平相加 (統一定價).

$$\begin{cases} P = 100 - q, & q \le 20 \\ \;\; = 90 - 0.5q, & q > 20 \end{cases} \Rightarrow \begin{cases} MR_1 = 100 - 2q, & q \le 20 \\ MR_2 = 90 - q, & q > 20 \end{cases}$$

令 $MR_1 = MC \Rightarrow 100 - 2q = 20 \Rightarrow q = 40$ (不合).

再令 $MR_2 = MC \Rightarrow 90 - q = 20 \Rightarrow q = 70$ (合) $\Rightarrow P = 55$

$\Rightarrow$ $TV_2 = 55 \times 70 - 20 \times 70 = 2450 = PS$

$CS = CS_A + CS_B = 1012.5 + 312.5 = 1325$

$TS = 3775$ #

(C) $F = (80 - P) \times q/2 = (80 - P)(80 - P)/2 = (80 - P)^2/2$.

$TV = 2F + (P - 20)(q_A + q_B) = (80 - P)^2 + (P - 20)(180 - 2P) = -P^2 + 60P + 2800$.

由一P皆條件可解釋得 $= P = 30$ 故 $F = 1250$ $q = 1250$ $q = 120$, $TV = 3700$.

$CS = CS_A(P = 30)$ $CS_B(P = 30) - 2F = 2450 + 1250 - 2500 = 1200$

$TS = CS + PS = 1200 + 3700 = 4900$.