week 13.

T4:

TR = P×q

(A). $(100-q)q = q^2 + 100q$

MR = -2q+100

ML = 20

⇒ ML = MR.

⇒ -2q + 100 = 20

$q^* = 40$

$p^* = 60$.

TU = TR - TC ⇒ TU = $-q^2 + 100q - 30 - 20q$

⇒ 1010.

(B) $q^* = 40 \Rightarrow p = 20$ $q = 80$.

∴ 無損 = $40 \times 80 \times \frac{1}{2}$

= 1600

(C) $L = 1 - \frac{ML}{P} = \frac{2}{3}$

(D) $TR' = (100 - q - 10q)q = -11q^2 + 100q$

MR' = -22q + 100

⇒ $q^{*\prime} = 7.636 \Rightarrow p^* = 96.364$.

⇒ TU = TR' - TC = 113.45

(E) $TR_2 = [(100-q) - 10\%(100-q)]q = 0.9q^2 + 90q$

MR' = -1.8q + 90

⇒ $q^*_2 = 38.89 \Rightarrow p^* = 61.11$

(F) $TR_3 = (100 - q - 1000)q = -q^2 - 900q$

$MR_3 = -2q - 900$

⇒ $q^*_3 = 450$.

T5

P = 40MC

⇒ $\frac{P}{MC} = \frac{1}{1-\frac{1}{E_d}}$

⇒ $E_d = \frac{4}{3}$

T6

ML = MR

⇒ K = (P - TC)

T7

TR = P×q = (180 - q)q = $-2q^2 + 180q$

MR = -2q + 180

[MCA = 40

MCB = 80.

⇒ MQ = MCB MR = MCB.

$q^*_A = 47.67 \Rightarrow q^*_B = 26$.

⇓

$\pi_{JR} = 233.35$

$\pi_{JQ} = 152$