

Part 3 廠商理論 Week 2

1.	K	L	q	AP _L	AP _K	MP _L
	20	0	0			
	20	5	20	4	1	4
	20	10	43	4.3	2.15	4.6
	20	15	57	3.8	2.85	2.8
	20	20	67	3.35	3.35	2
	20	25	75	3	3.75	1.6

2. 已知生產函數 $q = 21L + 9L^2 - L^3$, 試問:

(A) L 大於多少時, MP_L 開始遞減?

$$MP_L = 21 + 18L - 3L^2 \Rightarrow LMP_L/dL \Rightarrow 18 - 6L = 0 \quad L = 3 \#$$

(B) L 等於多少時, TP 達最大?

$$\text{令 } MP_0 = 0 \rightarrow L = 7 \#$$

(C) L 大於多少時, AP_L 開始遞減?

$$AP_L = 21 + 9L - L^2 \rightarrow dAP_L/dL = 9 - 2L = 0$$

$$L = 4.5 \#$$

等產量曲線 (長期)

3. TP = 500 K = 5 L = 10 MP_L = 5 MP_K = ?

$$\text{Ans: } MP_K \times K + MP_L \times L = Q$$

$$MP_K \times 5 + 5 \times 10 = 500, \quad MP_K = 90 \#$$

4. (A) $Q = 5A + 10B$

(B) $Q = \text{Min}(\frac{L}{2}, K)$