

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.

(A) $\frac{MP_L}{dL} = 18 - 6L = 0 \Rightarrow L = 3$ $\therefore L > 3$ 時, MP_L 開始遞減

(B) $\frac{dQ}{dL} = -1 + 18L - 3L^2 = 0 \Rightarrow (-3L + 21)(L + 1) = 0 \Rightarrow L = 7$
 $\therefore L > 7$ 時, TP 達最大

(C) $\frac{dAP_L}{dL} = 9 - 2L = 0 \Rightarrow L = 4.5$ $\therefore L > 4.5$ 時, AP_L 開始遞減

3.

$$L=10, K=5, MP_L = \alpha = 5, Q=500$$

$$10\alpha + 5\beta = 500 \quad (\alpha=5 \text{ 代入})$$

$$\Rightarrow 10 \times 5 + 5\beta = 500 \Rightarrow 5\beta = 450 \Rightarrow \beta = 90 = MP_K$$

4.

$$(A) \quad q = 5A + 10B$$

$$(B) \quad q = \min\left(\frac{L}{2}, K\right)$$