

1.

K	L	q	AP <sub>L</sub>	AP <sub>K</sub>	MP <sub>L</sub>
20	0	0	0	0	0
20	5	20	4	4	4
20	10	43	4.3	2	4.6
20	15	57	3.8	1.33	2.8
20	20	67	3.35	1	2
20	25	75	3	0.8	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)  $\frac{dQ}{dL} = 21 + 18L - 3L^2 = 0 \Rightarrow (-3L + 21)(L + 1) = 0 \Rightarrow L = 7$   
 $\therefore L > 7$  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.

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

$$(B) \quad Q = \min(2A, B)$$