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$$(1) P_L = 21L + 9L^2 - L^3$$

$$(1) MP_L = 21 + 18L - 3L^2 \quad \left(\frac{dP_L}{dL}\right)$$

$$\frac{dMP_L}{dL} = 18 - 6L = 0, 6L = 18, L = 3$$

大於 3 開始遞減

$$(2) \text{令 } MP_L = 0$$

(水平線)

$$0 = -3L^2 + 18L = 21$$

$$0 = -L^2 + 6L + 7$$

$$L = 1 \text{ or } 7$$

$L = 7$ (TP 為最大)

$$(3) AP_L = 21 + 9L - L^2$$

$$\frac{dAP_L}{dL} = 9 - 2L = 0 \rightarrow L = 4.5, AP_L \text{ 開始遞減}$$

(二)

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

$$(B) Q = \min\left\{\frac{1}{2}, K\right\}$$

(A)



(B)

