個經 HW1

①

K	L	Q	AP_L	AP_K	MP_L
20	0	0	0	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

$AP_L = \frac{Q}{L}$ $AP_K = \frac{Q}{K}$ $MP_L = \frac{\Delta Q}{\Delta L}$

②

① $MP_L = \frac{dQ}{dL} = 21 + 18L - 3L^2$

$\frac{d\,MPL}{dL} = 18 - 6L$, $L = 3$

② $21 + 18L - 3L^2 = 0$

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

$(L-7)(L+1) = 0$

③ $\because MP = AP$

$21 + 18L - 3L^2 = 21 + 9L - L^2$

$9L = 2L^2$

$L = 4.5$

③ $AP_L = 500/10 = 50$

$MP_L = 50/10 = 5$

$AP_K = 500/5 = 100$

$MP_K = 100/5 = 20$

④ 生產函數 $Q = f(L, K)$

Ⓐ $\frac{5}{10} \times \frac{1}{2}$

Ⓑ $Q = \min\left[\frac{L}{2}, \frac{K}{1}\right]$