

Week 2

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8. 微分	生產函數	$q = 5Lk$	$q = 2L + 3k$	$q = \min\{L, k\}$	$q = (0.2L^{-0.5} + 0.8k^{-0.5})^{-2}$
	邊際產量	$MPL = 5k$ $MPk = 5L$	$MPL = 2$ $MPk = 3$	X	
$\frac{\alpha}{\beta}$	邊際技術 替代率	$\frac{k}{L}$	$\frac{2}{3}$	$1, 0, \infty$	
	規模報酬	IRTS	CRTS	CRTS	
$\frac{MP_L}{APL} \frac{MP_k}{APk}$	產量彈性	$EL = 1$ $E_k = 1$	$EL = \frac{2L}{2L+3k}$ $E_k = \frac{3k}{2L+3k}$	X	
$EL + E_k$	生產彈性	2	1	1	
	替代彈性	1	$\infty$	0	

$$5. F(k, L) = k^{\frac{1}{2}} L^{\frac{1}{2}}$$

$$MRTS = \frac{k}{L}$$

$$\text{替代彈性} = \frac{\frac{\partial k/L}{k/L}}{\frac{\partial MRTS}{MRTS}} = 1$$

$$F(k, L) = 2k + L$$

$$MRTS = \frac{1}{2}$$

$$\text{替代彈性} = \frac{\frac{\partial \ln k}{\partial \ln MRTS}}{\text{固定常數}} \Rightarrow \infty$$

9. (1) & (2) F (2) T