

$$(A) Q = (L^\alpha + K^\alpha)^\beta$$

$$F(\lambda L, \lambda K) = [\lambda^\alpha L^\alpha + \lambda^\alpha K^\alpha]^\beta = \lambda^{\alpha\beta} Q$$

$\alpha\beta=1$: CRS, $\alpha\beta>1$: IRS, $\alpha\beta<1$: DRS

$$(B) \ln Q = 5 + 0.5 \ln L + 0.2 \ln K$$

$$Q = e^5 L^{0.5} K^{0.2} \Rightarrow DRS$$

$$(C) Q = [\min\{aL, bK\}]^\alpha$$

$$F(\lambda L, \lambda K) = [\min\{a\lambda L, b\lambda K\}]^\alpha = \lambda^{\alpha} Q$$

$\alpha=1$: CRS, $\alpha>1$: IRS, $\alpha<1$: DRS

生产函数	$Q = 5LK$	$Q = 2L + 3K$	$Q = \min\{L, K\}$	$Q = [0.2L^{0.5} + 0.8K^{0.5}]^{0.2}$
边际产量	$MP_L = 5K$ $MP_K = 5L$	$MP_L = 2$ $MP_K = 3$	折点无法微分	$MP_L = 0.2(0.5)L^{-0.5} \cdot 0.2^{0.5} L^{0.5} = 0.2^{0.5}$ $MP_K = 0.8(0.5)K^{-0.5} \cdot 0.2^{0.5} K^{0.5} = 0.8^{0.5}$
边际技术替代率	$\frac{K}{L}$	$\frac{2}{3}$	1, 0, ∞	$0.25 \left[\frac{K}{L} \right]^{0.5}$
规模报酬	IRS	CRS	CRS	CRS
产量弹性	$\epsilon_L = \epsilon_K = 1$	$\epsilon_L = \frac{2L}{2L+3K}$ $\epsilon_K = \frac{3K}{2L+3K}$	折点无法微分	$\epsilon_L = \frac{0.2L}{0.2L^{0.5} + 0.8K^{0.5}}$ $\epsilon_K = \frac{0.8K}{0.2L^{0.5} + 0.8K^{0.5}}$
生产弹性	2	1	1	1
替代弹性	1	∞	0	$\frac{2}{3}$