

$$5. B = aL + bK$$

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

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

$$b. (a) F(L, L) = K^{\frac{1}{2}} L^{\frac{1}{2}}, MRTS = \frac{K}{L} = \frac{a^{\frac{1}{2}}}{b^{\frac{1}{2}}} = 1, \sigma = 1 \times \frac{MRTS}{M/L} = 1$$

$$(b) F(L, L) = 2K + L, MRTS = \frac{MR}{MP_K} = \frac{1}{2} \text{ 而 } \sigma MRTS = 0 \therefore \text{ 固定要素替代率 } \sigma = \frac{\frac{1}{2}}{0} \times \frac{a^{\frac{1}{2}}}{b^{\frac{1}{2}}} = \infty$$

8. 生产函数 $Q = 5LK$ $Q = 2L + 3K$ $Q = \min(L, K)$
 边际产量 $MP_L = 5K$ $MP_L = 2$ $MP_L = 1$
 $MP_K = 5L$ $MP_K = 3$ $MP_K = 1$
 $\Delta = 0.2L^{0.5} + 0.8K^{0.5}$
 $\Delta = 0.25(\frac{K}{L})^{0.5}$

长期生产函数	IRS	(RS)	CRS	CRS
要素替代弹性	$E_L \cdot E_K = 1$	$E_L = 2L/(2L+3K)$ $E_K = 3K/(2L+3K)$	$E_L = 0.2L^{0.5}/\Delta$ $E_K = 0.8K^{0.5}/\Delta$	

生产要素弹性	2	1	1	1
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替代弹性	1	∞	0	$2/3$
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$$9. T(1) F(L, L, K) = AB$$

$$T(2)$$

$$T(3)$$

$$10. (A) F(L, K) = [aL^{\alpha} + bK^{\beta}]^{\frac{1}{\alpha+\beta}} = \lambda^{\alpha} Q, \alpha/\beta = 1, CRS, \alpha/\beta > 1, IRS, \alpha/\beta < 1, DRS$$

$$(B) \text{ 左右两边 } e \rightarrow Q = e^{\frac{1}{\alpha+\beta}} L^{\frac{\alpha}{\alpha+\beta}} K^{\frac{\beta}{\alpha+\beta}} \neq DRS$$

$$(C) F(L, K) = [\min(aL, bK)]^{\frac{1}{\alpha+\beta}} = \lambda^{\alpha} Q, \alpha = 1 \text{ 为 } CRS, \alpha > 1 \text{ 为 } IRS, \alpha < 1 \text{ 为 } DRS$$