

5.

$$(1) \text{MRS}_{LK} = \frac{K}{L} = \frac{\sigma(\frac{K}{L})}{\sigma \text{MRS}_{LK}}$$

$$\sigma = 1 \times \frac{\text{MRS}}{(\frac{K}{L})} = 1$$

$$(b) \text{MRS}_{LK} = \frac{MP_L}{MP_K} = \frac{MP_L}{MP_K} \cdot \frac{1}{\frac{1}{L}} = \frac{MP_L}{MP_K} \cdot L = 2 \Rightarrow \Delta \text{MRS}_{LK} = 0$$

$$\frac{d \ln \frac{K}{L}}{d \ln (\frac{1}{L})} = \infty$$

$$\text{替代弹性 } \sigma = \frac{\% \Delta (\frac{K}{L})}{\% \Delta \text{MRS}_{LK}} = \frac{\sigma(\frac{K}{L})}{\sigma \text{MRS}_{LK}} = \frac{\text{MRS}_{LK}}{(\frac{K}{L})}$$

$$\text{MRS}_{LK} = \frac{MP_L}{MP_K}, MP_L = \frac{1}{2} L^{\frac{1}{2}} K^{\frac{1}{2}}, MP_K = \frac{1}{2} L^{\frac{1}{2}} K^{\frac{1}{2}}$$

8.

$$q = 5LK, q = 2L + 3K$$

$$\text{要素产量} \quad MP_L = 5K, MP_K = 5L$$

$$\text{邊際技術替代率} \quad \frac{K}{L} = \frac{2}{3}$$

$$\text{報酬} \quad \text{IRS} \quad \text{CRS}$$

$$\text{產量彈性} \quad \epsilon_L = \epsilon_K = 1$$

$$\text{鏡力彈力} \quad 2 \quad | \quad$$

$$\text{替代弹性} \quad \infty$$

$$9. \quad 7(1) \quad F(\lambda L, \lambda K) = \lambda Q$$

$$7(2) \quad$$

$$7(3) \quad$$

$$1. \quad q, F(\lambda L, \lambda K) = [(\lambda L)^{\alpha} + (\lambda K)^{\beta}]^{\frac{1}{\alpha+\beta}} \quad q, \alpha\beta = 1 \text{ CRS } (\beta > 1)$$

$$\text{CRS} < 1 \Rightarrow \text{DRS}$$

$$(b) \text{在石取} \quad e \Rightarrow q = e^{\frac{1}{2}} L^{\frac{1}{2}} K^{\frac{1}{2}} \Rightarrow \text{DRS}$$

$$(c) \quad F(\lambda L, \lambda K) = [\alpha \lambda L + \beta \lambda K]^{\frac{1}{\alpha+\beta}} = \lambda^{\frac{1}{\alpha+\beta}} q, \alpha > 1 \Rightarrow \text{DRS}$$

$$q = (0.2L^{-0.5} + 0.8K^{-0.5})^{-2}$$

$$MP_L = -0.2(\Delta)^{-3} L^{-1.5}$$

$$MP_K = -0.8(\Delta)^{-3} K^{-1.5}$$

$$\Delta = -0.2L^{-1.5} + 0.8K^{-1.5}$$

折點無法積分

$$1, 0, \infty$$

$$\text{CRS}$$

$$\text{CRS}$$

$$\epsilon_L = \frac{0.2L^{-0.5}}{\Delta}$$

$$\epsilon_K = \frac{0.8K^{-0.5}}{\Delta}$$

折點無法積分

$$|$$

$$\frac{2}{3}$$