

$$(A) C = 10L + 10K$$

$$(B) MRTS_{LK} = K/L$$

MRTS = 等產量曲線的切線斜率

$$\frac{10 \times \frac{1}{2} L^{-\frac{1}{2}} K^{\frac{1}{2}}}{10 \times L^{\frac{1}{2}} \times \frac{1}{2} K^{-\frac{1}{2}}}$$

$$(C) L \uparrow, K \downarrow \text{時}, MRTS_{LK} \text{下降}, \text{故等產量線凸向原點} \quad \frac{d(K/L)}{d(L)} = -KL^{-2}$$

$$(D) \begin{cases} \frac{K}{L} = \frac{10}{10} \\ q = 10L^{0.5}K^{0.5} \end{cases} \Rightarrow L^* = K^* = 0.19 \quad MRTS = \frac{K}{L} = \frac{w}{r} = \frac{10}{10}$$

$$(E) TC = 2q, AC = MC = 2$$

$$\begin{aligned} LTC &= wL^* + rK^* \\ &= 10 \times 0.19 + 10 \times 0.19 \\ &= 2q \end{aligned}$$

$$(F) TC(10) = 2 \times 10 = 20$$

$$AC = 2, MC = 2$$