成本

題7. $q = 10L^{\frac{1}{2}}K^{\frac{1}{2}}$ , $W = r = 10$

(A) 等成本線

$\overline{C} = WL + rK$
$\quad = 10L + 10K$ #

(B) $MRTS_{LK}$

$|MRTS| = \dfrac{MP_L}{MP_K}$
$\quad = \dfrac{5L^{-\frac{1}{2}}K^{\frac{1}{2}}}{5L^{\frac{1}{2}}K^{-\frac{1}{2}}} = \dfrac{K}{L}$ #

(C) 等產量線方向.

隨 $L\uparrow$, $K\downarrow$, $MRTS\downarrow$
故 凸向原点 ∟ #

(D) 條件要素需求函數.

$\begin{cases} \dfrac{MP_L}{MP_K} = \dfrac{K}{L} = 1 \\ q = 10L^{\frac{1}{2}}K^{\frac{1}{2}} \end{cases} \Rightarrow L^* = K^* = 0.1q$ #

(E) TC, AC, MC

$TC = 2q$ #
$AC = 2$ #
$MC = 2$ #

(F) 產10單位, 最低 cost.

$TC(10) = 2 \times 10 = 20.$ #