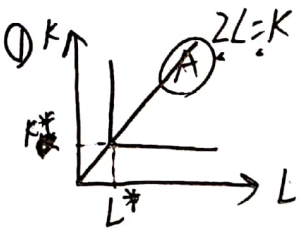
Week5

T3:

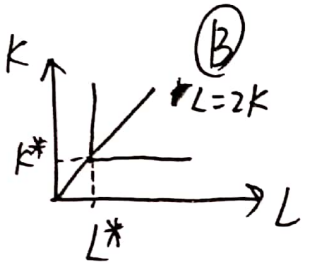
① 

$a=2, b=1$

$\begin{cases} q=\min\left\{\frac{L}{2}, \frac{K}{1}\right\} \\ q=2L=K \end{cases}$

$\Rightarrow \begin{cases} L^*=\frac{q}{a}=\frac{q}{2} \\ K^*=\frac{q}{b}=q \end{cases} \Rightarrow LTC_A=\frac{q}{2}+2q+40$

$=\frac{5q}{2}+40$



$a=1, b=2$

$\begin{cases} q=\min\left\{\frac{L}{1}, \frac{K}{2}\right\} \\ q=L=2K \end{cases}$

$\Rightarrow \begin{cases} L^*=q \\ K^*=\frac{q}{2} \end{cases} \Rightarrow LTC_B=q+q+100$

$=2q+100$

(2) $\because q=20$

$\therefore LTC_A=\frac{5}{2}\times 20+40=90$

$LTC_B=2q+100=120$

$\because LTC_A<LTC_B$

$\therefore$ 选A

(3) $\because q=40$

$\therefore LTC_A=\frac{5}{2}\times 40+40=140$

$LTC_B=2\times 40+100=180$

$\because LTC_A<LTC_B$

$\therefore$ 选A

(4) $\frac{5q}{2}+40<2q+100$

$\Rightarrow q<120$

$\therefore$ 当q低于120时，应买A

T4: $\because q=10L^{0.5}K^{0.5}$

① $\frac{MP_L}{MP_K}=\frac{w}{r}=\frac{1\text{e}}{L}=1$

$\Rightarrow K^*=L^*=0.1q$

$\therefore STC=wL+r\bar{k}=q+10k.$

$TVC=wL=q$

$MC=\frac{\Delta STC}{\Delta q}=\frac{\Delta TVC}{\Delta q}$

② $\because STC=TVC+TFC$

$=r\bar{k}+wL$