week 3.

Q1: (a) $f(K,L) = K^{\frac{1}{2}} L^{\frac{1}{2}}$.

$\therefore MPL = \frac{\partial q}{\partial L} = \frac{1}{2K}$.

$MPK = \frac{\partial q}{\partial K} = \frac{1}{2L}$

$\therefore MRTS = \frac{MPL}{MPK} = \frac{L}{K}$

(b) $f(K,L) = 2K+L$.

$\therefore MPL = \frac{\partial q}{\partial L} = \frac{3}{2K+1}$.

$MPK = \frac{3}{2}$

$\therefore MRTS = \frac{MPL}{MPK} = \frac{2}{2K+1}$

$\therefore \sigma = \frac{2K+1}{K} = 1.*$ 对.

$$\therefore \sigma = \frac{\frac{\partial K}{K}}{\frac{\partial MRTS}{MRTS}} = \frac{\frac{1}{2}K^{-\frac{3}{2}}L^{\frac{1}{2}}}{\frac{K(K-L)}{L}} = \frac{K^{-\frac{5}{2}}L^{\frac{3}{2}}}{2K-2L} = 1$$ 对

Q8: (1) $q = 3K+2L$

$f(\partial L, \partial K)$.

$= 2L\partial L + 3(\partial K)$

$= \partial(3K+2L)$

$= \partial Q$

correct. 对

(2). $MPK = \frac{\partial q}{\partial K} = \frac{5}{3}$.

$MPL = \frac{\partial q}{\partial L} = \frac{5}{2}$.

error. 对

(3) $MRTS = \frac{MPL}{MPK} = \frac{3}{2}$.

correct. 对

Q9.

(1) $: q = (aL^{\alpha} + K^{\alpha})^{\beta}$.

$= L^{\alpha\beta} + K^{\alpha\beta}$.

固定.

$\therefore f(\partial L, \partial K)$.

$\Rightarrow \partial L^{\alpha\beta} + \partial K^{\alpha\beta}$.

$\Rightarrow \partial(L^{\alpha\beta} + K^{\alpha\beta})$

(2). $\ln q = 5 + a_1 \ln L + a_2 \ln K$.

固定. $\Rightarrow q = \frac{KL}{0.5K+0.2L}$. $\Rightarrow f(\partial L, \partial K)$

$\Rightarrow \frac{\partial K \partial L}{0.5\partial K + 0.2\partial L} = \partial\left(\frac{KL}{0.5K+0.2L}\right)$.

3) $f(\partial L, \partial K)$.

$\Rightarrow [\min(a\partial L, b\partial L)]^{\alpha}$

$\Rightarrow (\min(aL, bK))^{\alpha}$

$\Rightarrow (\partial Q)^{\alpha}$.

[illegible] 对