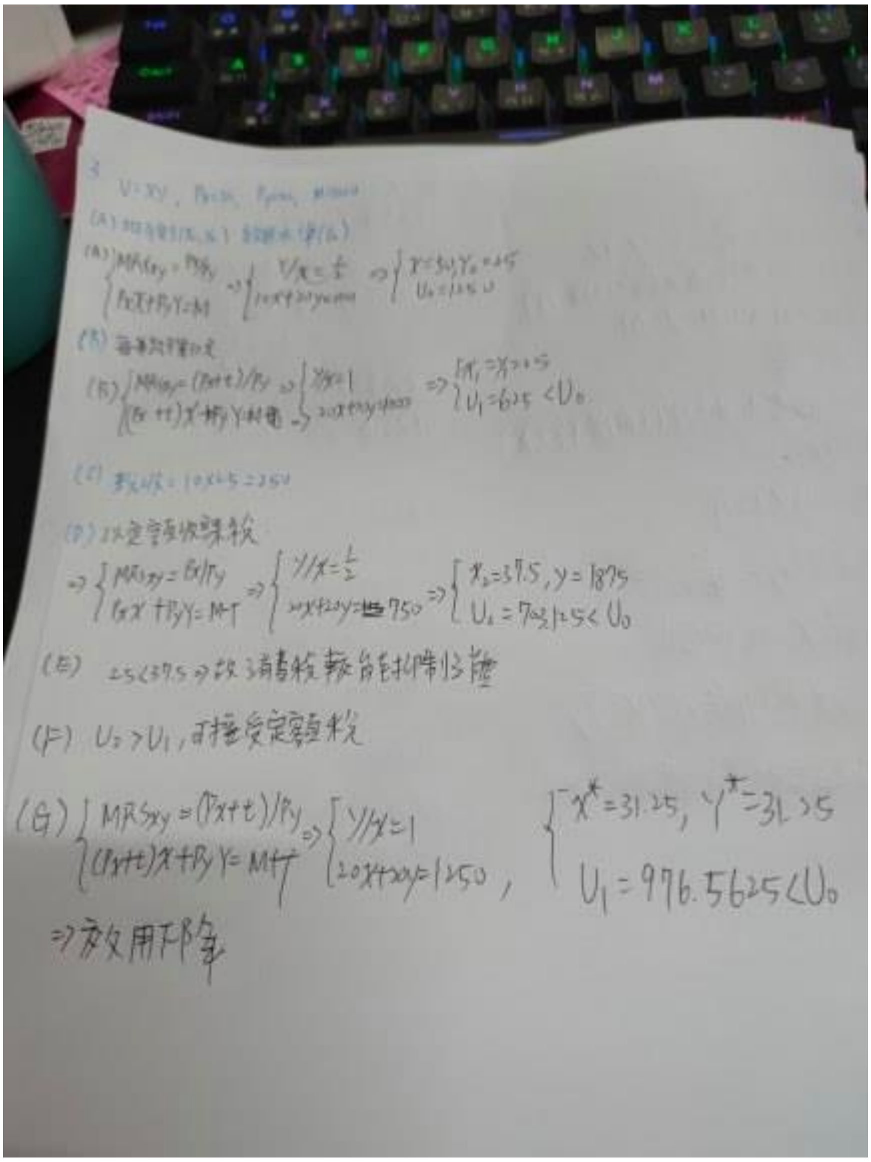

3

$U=XY$, $P_X=10$, $P_Y=20$, $M=1000$

(A) [illegible]

(A) $\begin{cases} MRS_{XY}=P_X/P_Y \\ P_X X+P_Y Y=M \end{cases} \Rightarrow \begin{cases} Y/X=\frac{1}{2} \\ 10X+20Y=1000 \end{cases} \Rightarrow \begin{cases} X=50, Y_0=25 \\ U_0=1250 \end{cases}$

(B) [illegible]

(B) $\begin{cases} MRS_{XY}=(P_X+t)/P_Y \\ (P_X+t)X+P_Y Y=M \end{cases} \Rightarrow \begin{cases} Y/X=1 \\ 20X+20Y=1000 \end{cases} \Rightarrow \begin{cases} X_1=Y_1=25 \\ U_1=625<U_0 \end{cases}$

(C) 税收$=10\times 25=250$

(D) 以定额税[illegible]

$\Rightarrow \begin{cases} MRS_{XY}=P_X/P_Y \\ P_X X+P_Y Y=M-T \end{cases} \Rightarrow \begin{cases} Y/X=\frac{1}{2} \\ 20X+20Y=750 \end{cases} \Rightarrow \begin{cases} X_2=37.5, y=18.75 \\ U_2=703.125<U_0 \end{cases}$

(E) $25<37.5 \Rightarrow$ 故消费[illegible]

(F) $U_2>U_1$，可接受定额税

(G) $\begin{cases} MRS_{XY}=(P_X+t)/P_Y \\ (P_X+t)X+P_Y Y=M+T \end{cases} \Rightarrow \begin{cases} Y/X=1 \\ 20X+20Y=1250 \end{cases}$, $\begin{cases} X^*=31.25, Y^*=31.25 \\ U_1=976.5625<U_0 \end{cases}$

$\Rightarrow$效用下降