A10823600225 江旺堯承 經濟二甲.

(A) $\begin{cases} MRS_{xy} = \frac{P_x}{P_y} \\ P_x X + P_y Y = M \end{cases} \Rightarrow \begin{cases} \frac{Y}{X} = \frac{1}{2} \\ 10X + 20Y = 1000 \end{cases} \Rightarrow \begin{cases} X_0 = 50, Y_0 = 25 \\ U_0 = 1250. \end{cases}$

(B) $\begin{cases} MRS_{xy} = \frac{P_x + t}{P_y} \\ (P_x + t)X + P_y Y = M \end{cases} \Rightarrow \begin{cases} \frac{Y}{X} = 1 \\ 20X + 20Y = 1000 \end{cases} \Rightarrow \begin{cases} X_1 = Y_1 = 25 \\ U_1 = 625 < U_0 \end{cases}$

(C) 政府稅收 $T = 10 \times 25 = 250$.

(D) $\begin{cases} MRS_{xy} = \frac{P_x}{P_y} \\ P_x X + P_y Y = M - T \end{cases} \Rightarrow \begin{cases} \frac{Y}{X} = \frac{1}{2} \\ 10X + 20Y = 750 \end{cases} \Rightarrow \begin{cases} X_2 = 37.5, Y_2 = 18.75 \\ U_2 = 703.125 < U_0. \end{cases}$

(E) 因為 $X_1 < X_2$，所以消費稅較能抑制消費

(F) 但 $U_2 > U_1$，故小李寧可接受定額稅.

(G) $\begin{cases} MRS_{xy} = \frac{(P_x + t)}{P_y} \\ (P_x + t)X + P_y Y = M + T \end{cases} \Rightarrow \begin{cases} \frac{Y}{X} = 1 \\ 20X + 20Y = 1250 \end{cases} \Rightarrow \begin{cases} X^* = 31.25, Y^* = 31.25 \\ U_1 = 976.5625 < U_0. \end{cases}$

故知小李的效用會下降