(b) Conditions du premier ordre :

$$\begin{cases} TMS = \dfrac{p_1}{p_2} & (1) \\ p_1 x_1 + p_2 x_2 = R & (2) \end{cases}$$

(1) $\dfrac{\frac{\partial U}{\partial x_1}}{\frac{\partial U}{\partial x_2}} = 1 \Longrightarrow \dfrac{x_2 + 2}{x_1 + 1} = 1 \Longrightarrow x_2 + 2 = x_1 + 1$

$\Longrightarrow x_2 = x_1 - 1$

(2) $\Longrightarrow x_1 + x_2 = R$

(1) et (2) $\Longrightarrow 2x_1 - 1 = R \Longrightarrow x_1 = \dfrac{R+1}{2}$

$x_2 = x_1 - 1 = \dfrac{R-1}{2}$

Donc $\Longrightarrow \overline{x_1} = \dfrac{R+1}{2}$ et $\overline{x_2} = \dfrac{R-1}{2}$