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Content:

第七题

$$① MKS_y = \frac{2xy}{x^2 + y^2} \Rightarrow \frac{10}{13} \Rightarrow y = 4x$$

$$② 10x + 4y = 15x \Rightarrow x = \frac{11}{13}$$

$$③ \max U = f(x, y) = 2xy$$

$$s.t. \quad 300 = 2x + 10y$$

$$MKS_y = \frac{2xy}{x^2 + y^2} = \frac{10}{13} \Rightarrow y = \frac{10}{13}x$$

$$300 = 2x + 10(\frac{10}{13}x) \Rightarrow x = \frac{300}{17}$$

④  $X$  服从独立正态分布,  $X$  服从正态分布