2)

$$f_{X,Y}(x,y) = \begin{cases} c \cdot \frac{\sin(y)}{y} & \text{ob } x \in [0,\pi],\ y \in [x,\pi] \\ 0 \end{cases}$$

$$\xrightarrow{\text{stetig}} \int_0^{\pi} dx \int_x^{\pi} c \frac{\sin y}{y}\, dy = 1$$

$$2c = 1$$

$$\Leftrightarrow c = \frac{1}{2}$$