1.1
Consider random vectors

$$\mathbf{X} \sim \mathcal{N}\left(\begin{bmatrix}1\\2\end{bmatrix}, \begin{bmatrix}3 & 1\\1 & 2\end{bmatrix}\right) \quad \text{and} \quad \mathbf{Y} \sim \mathcal{N}\left(\begin{bmatrix}-3\\5\end{bmatrix}, \begin{bmatrix}2 & -1\\-1 & 2\end{bmatrix}\right) \tag{1}$$