X Gaussian random vector $\in \mathbb{R}^2$ with parameters (μ, Γ) where $\mu = (0,0)^T$ and

$$\Gamma = \begin{bmatrix} 4 & 6 \\ 6 & 9 \end{bmatrix}$$

Find an appropriate transformation $\Phi : \mathbb{R}^d \to \mathbb{R}^2$, $d \in \mathbb{N}$ and another d-dimensional Gaussian r.v. Z such that $\Phi(Z)$ has the distribution of X. Then determine the support of X, i.e., the smallest closed set $R_X \subset \mathbb{R}^2$ such that we have $\mathbb{P}(X \in R_X) = 1$.