$$\begin{bmatrix} 1 & 0 & 0 \\ 0 & \cos \theta & -\sin \theta \\ 0 & \sin \theta & \cos \theta \end{bmatrix}$$
$$v_i' = \sum_{i=0}^{n} A_{ij} \cdot v_j$$

$$v_i' = \sum_{j=1}^n A_{ij} \cdot v_j$$

$$\sigma = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - \mu)^2}$$