November 28, 2019

Q1

(1)

$A.0 < \theta < \pi$

$$A = \begin{pmatrix} \cos\theta & 0 & \sin 0 \\ -1 & 1 & -1 \\ \sin\theta & 0 & \cos\theta \end{pmatrix}$$

1. A

2.

3.

$.\lambda.$

$$|\lambda E - A| = 0$$

EA

$$\begin{pmatrix} \lambda - \cos\theta & 0 & \sin\theta \\ 1 & \lambda - 1 & 1 \\ -\sin\theta & 0 & \lambda - \cos\theta \end{pmatrix} = 0$$

$$(\lambda - \cos\theta)^2(\lambda - 1) = 0$$

$\lambda = 1, \cos\theta$

.

$$(\lambda E - A)x = 0$$

x
$\lambda = \cos\theta$

(2)

(3)

1