

$$A = \begin{pmatrix} 3 & -5 & -5 \\ -1 & 7 & 5 \\ 1 & -9 & -7 \end{pmatrix} - \begin{pmatrix} \lambda & 0 & 0 \\ 0 & \lambda & 0 \\ 0 & 0 & \lambda \end{pmatrix}$$

$$|A - \lambda E| = \begin{vmatrix} 3-\lambda & -5 & -5 \\ -1 & 7-\lambda & 5 \\ 1 & -9 & -7-\lambda \end{vmatrix}$$

$$|A| = |A^T|$$

$$|(A - \lambda E)| = |(A - \lambda E)^T| = \begin{vmatrix} 3-\lambda & -5 & -5 \\ 0 & -2-\lambda & -2-\lambda \\ 1 & -9 & -7-\lambda \end{vmatrix}$$

行, 3'

$$= \begin{vmatrix} 3-\lambda & -5 & -5 \\ 0 & -2-\lambda & -2-\lambda \\ 1 & -9 & -7-\lambda \end{vmatrix}$$

②行 +3行

②3' +33'

$$= \begin{vmatrix} 3-\lambda & -5 & -5 \\ 0 & -2-\lambda & -2-\lambda \\ 1 & -9 & -7-\lambda \end{vmatrix}$$

$$= \begin{vmatrix} 3-\lambda & -5 & 0 \\ 0 & -2-\lambda & 0 \\ 1 & -9 & -2+\lambda \end{vmatrix}$$

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$$= (3-\lambda)(-2-\lambda)(-2+\lambda) - 0$$

$$\lambda = 3, 2, -2$$

~~A+2~~

$$\begin{pmatrix} 3 & -5 & -5 \\ -1 & 7 & 5 \\ 1 & -9 & -7 \end{pmatrix} \begin{pmatrix} x \\ y \\ z \end{pmatrix} = -2 \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} -2 & 0 & 0 \\ 0 & -2 & 0 \\ 0 & 0 & -2 \end{pmatrix} \begin{pmatrix} x \\ y \\ z \end{pmatrix}$$

$$\begin{pmatrix} 5 & -5 & -5 \\ -1 & 9 & 5 \\ 1 & -9 & -5 \end{pmatrix} \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$$

A+2E p. 7/ (λ)