

TUGAS ALJABAR VEKTOR & KOMPLEKS

- 8 Solve the following set of linear equations by the matrix method:

$$x_1 + 3x_2 + 2x_3 = 3$$

$$2x_1 - x_2 - 3x_3 = -8$$

$$5x_1 + 2x_2 + x_3 = 9$$

- 9 For the following set of simultaneous equations:

(a) form the augmented coefficient matrix

(b) solve the equations by Gaussian elimination.

$$x_1 + 2x_2 + 3x_3 = 5$$

$$3x_1 - x_2 + 2x_3 = 8$$

$$4x_1 - 6x_2 - 4x_3 = -2$$

- 10 If $\mathbf{A}\cdot\mathbf{x} = \lambda\mathbf{x}$, where $\mathbf{A} = \begin{pmatrix} 2 & 2 & -2 \\ 1 & 3 & 1 \\ 1 & 2 & 2 \end{pmatrix}$ determine the eigenvalues of the matrix \mathbf{A} and an eigenvector corresponding to each eigenvalue.