

Lecture 05 Worksheet (ECON211), AY 2025-26

1. Construct a 3×4 matrix whose elements are given by:

a) $a_{ij} = \frac{(i^2 - 2j)}{2i}$

b) $a_{ij} = \frac{1}{2}|2i - j|$

2. Find the values of x and y if the following holds:

$$2 \begin{bmatrix} x & 5 \\ 7 & y-3 \end{bmatrix} + \begin{bmatrix} 3 & -4 \\ 1 & 2 \end{bmatrix} = \begin{bmatrix} 7 & 6 \\ 15 & 14 \end{bmatrix}$$

3. Compute $A \times B$ and $B \times A$ if

$$A = \begin{bmatrix} 6 & 9 \\ 2 & 3 \end{bmatrix} \quad B = \begin{bmatrix} 0 & 1 \\ -1 & 0 \end{bmatrix}$$

4. Find $A^2 - 5A + 6I$ if $A = \begin{bmatrix} 2 & 0 \\ 2 & 1 \end{bmatrix}$