

OPMT 5701
In Class Assignment
Matrix Algebra 2

Matrix Multiplication

1. Find $C = AB$, if $A = \begin{bmatrix} 12 & 14 \\ 20 & 5 \end{bmatrix}$ $B = \begin{bmatrix} 3 & 9 \\ 0 & 2 \end{bmatrix}$

2. Find $C = AB$, if $A = \begin{bmatrix} 4 & 7 \\ 9 & 1 \end{bmatrix}$ $B = \begin{bmatrix} 3 & 8 & 5 \\ 2 & 6 & 7 \end{bmatrix}$

3. Find $C=AB$, if $A = \begin{bmatrix} 7 & 11 \\ 2 & 9 \\ 10 & 6 \end{bmatrix}$ $B = \begin{bmatrix} 12 & 4 & 5 \\ 3 & 6 & 1 \end{bmatrix}$

4. Find (i) $AB = C$, and (ii) $BA = D$, if $A = \begin{bmatrix} -2 \\ 4 \\ 7 \end{bmatrix}$ $B = [3 \ 6 \ -2]$

5. Find the minors and cofactors of the third row, given $A = \begin{bmatrix} 9 & 11 & 4 \\ 3 & 2 & 7 \\ 6 & 10 & 4 \end{bmatrix}$

6. Use Laplace Expansion to find the determinant of $A = \begin{bmatrix} 15 & 7 & 9 \\ 2 & 5 & 6 \\ 9 & 0 & 12 \end{bmatrix}$

7. Find the inverse for

$$A = \begin{bmatrix} 4 & 1 & -5 \\ -2 & 3 & 1 \\ 3 & -1 & 4 \end{bmatrix}$$

Where $A^{-1} = \frac{1}{|A|} \cdot AdjA$