

QUESTION

Evaluate the product \mathbf{AB} of the matrices

$$\mathbf{A} = \begin{pmatrix} 1 & -2 \\ -1 & 1 \end{pmatrix}, \quad \mathbf{B} = \begin{pmatrix} 2 & -1 \\ 3 & 1 \end{pmatrix}.$$

ANSWER

$$\mathbf{AB} = \begin{pmatrix} 1 & -2 \\ -1 & 1 \end{pmatrix} \begin{pmatrix} 2 & -1 \\ 3 & 1 \end{pmatrix} = \begin{pmatrix} 2-6 & -1-2 \\ -2+3 & 1+1 \end{pmatrix} = \begin{pmatrix} -4 & -3 \\ 1 & 2 \end{pmatrix}$$