

LESSON 4.2:
MATRIX MULTIPLICATION

- In order to perform matrix multiplication, the inner dimensions must match and the outer dimensions tell you the size of the answer.

ex: $2 \times 3 \cdot 3 \times 1 = 2 \times 1$

The diagram illustrates the process of matrix multiplication. It shows the equation $2 \times 3 \cdot 3 \times 1 = 2 \times 1$. A red bracket connects the '3' in the first matrix to the '3' in the second matrix, with the word 'MATCH' written below it. Another red bracket connects the '2' in the first matrix to the '2' in the result, and the '1' in the second matrix to the '1' in the result, with the word 'ANSWER' written below it.

Perform matrix multiplication.

$$5) \begin{bmatrix} 2 & -3 \\ 1 & 5 \end{bmatrix} \cdot \begin{bmatrix} 6 & 0 \\ 4 & 7 \end{bmatrix}$$

$$6) \begin{bmatrix} 2 & -3 \\ 0 & 5 \\ -2 & 0 \end{bmatrix} \cdot \begin{bmatrix} 5 & 0 \\ 4 & 7 \end{bmatrix}$$

$$7) [4 \quad -1] \left(\begin{bmatrix} -3 & 5 \\ -2 & 0 \end{bmatrix} + \begin{bmatrix} 4 & 7 \\ 10 & -3 \end{bmatrix} \right)$$

HOMework:

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