

Homework Assignment #1

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Compute the products in Exercises 1-4 using (a) the definition as in Example, and (b) the row-vector rule for computing Ax . If a product is undefined, explain why.

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

Undefined, 3×2 can't multiply 3×1 , the first one's columns didn't match the second one's rows.

3.
$$\begin{bmatrix} 1 & 2 \\ -3 & 1 \\ 1 & 6 \end{bmatrix} \begin{bmatrix} -2 \\ 3 \end{bmatrix}$$

$$\begin{bmatrix} (1x - 2) + (2x3) \\ (-3x - 2) + (1x3) \\ (1x - 2) + (6x3) \end{bmatrix} = \begin{bmatrix} -2 + 6 \\ 6 + 3 \\ -2 + 18 \end{bmatrix} = \begin{bmatrix} 4 \\ 9 \\ 16 \end{bmatrix}$$