

$$\begin{pmatrix} 0 & 1 \\ 2 & 3 \end{pmatrix} \begin{pmatrix} 4 & 5 \\ 6 & 7 \end{pmatrix} = \begin{pmatrix} 6 & 7 \\ 26 & 31 \end{pmatrix}$$

Diagram illustrating the first step of matrix multiplication: the element 1 in the first row of the first matrix is multiplied by the element 6 in the first column of the second matrix, resulting in 6.

$$\begin{pmatrix} 0 & 1 \\ 2 & 3 \end{pmatrix} \begin{pmatrix} 4 & 5 \\ 6 & 7 \end{pmatrix} = \begin{pmatrix} 6 & 7 \\ 26 & 31 \end{pmatrix}$$

Diagram illustrating the second step of matrix multiplication: the element 1 in the first row of the first matrix is multiplied by the element 7 in the second column of the second matrix, resulting in 7.

$$\begin{pmatrix} 0 & 1 \\ 2 & 3 \end{pmatrix} \begin{pmatrix} 4 & 5 \\ 6 & 7 \end{pmatrix} = \begin{pmatrix} 6 & 7 \\ 26 & 31 \end{pmatrix}$$

Diagram illustrating the third step of matrix multiplication: the element 2 in the second row of the first matrix is multiplied by the element 6 in the first column of the second matrix, resulting in 12.

$$\begin{pmatrix} 0 & 1 \\ 2 & 3 \end{pmatrix} \begin{pmatrix} 4 & 5 \\ 6 & 7 \end{pmatrix} = \begin{pmatrix} 6 & 7 \\ 26 & 31 \end{pmatrix}$$

Diagram illustrating the fourth step of matrix multiplication: the element 2 in the second row of the first matrix is multiplied by the element 7 in the second column of the second matrix, resulting in 14.