If $A = \begin{bmatrix} 2 & -1 & -3 \\ -2 & 1 & -3 \\ -4 & 3 & -2 \end{bmatrix}$ and $B = \begin{bmatrix} -3 & 3 & -4 \\ 0 & 2 & -3 \\ -2 & -3 & 3 \end{bmatrix}$,

then $AB = \begin{bmatrix} \square & \square & \square \\ \square & \square & \square \\ \square & \square & \square \end{bmatrix}$

and $BA = \begin{bmatrix} \square & \square & \square \\ \square & \square & \square \\ \square & \square & \square \end{bmatrix}$.

Choose True or False: $AB = BA$ for any two square matrices A and B of the same size.

$\square$

If $A = \begin{bmatrix} 2 & -1 & -3 \\ -2 & 1 & -3 \\ -4 & 3 & -2 \end{bmatrix}$ and $B = \begin{bmatrix} -3 & 3 & -4 \\ 0 & 2 & -3 \\ -2 & -3 & 3 \end{bmatrix}$,

then $AB = \begin{bmatrix} 0 & 13 & -14 \\ 12 & 5 & -4 \\ 16 & 0 & 1 \end{bmatrix}$

and $BA = \begin{bmatrix} 4 & -6 & 8 \\ 8 & -7 & 0 \\ -10 & 8 & 9 \end{bmatrix}$.

Choose True or False: $AB = BA$ for any two square matrices A and B of the same size.

False