

Accelerated Precalculus

5.01-5.04 Quiz Review WS #1: Matrix Operations and Inverses

Perform the given operation. If it is not possible, write undefined and explain why.

1. $\begin{bmatrix} 1 & 7 & 0 \\ -8 & 4 & 1 \end{bmatrix} - \begin{bmatrix} 6 & 7 \\ 2 & 2 \\ 5 & 0 \end{bmatrix}$

2. $3 \begin{bmatrix} -3 & -2 & 1 \\ 2 & 6 & -1 \end{bmatrix} - \begin{bmatrix} 4 & -1 & 11 \\ -5 & 3 & 1 \end{bmatrix}$

3. $\begin{bmatrix} 5 & 1 & 4 \\ -9 & 3 & 0 \end{bmatrix} \begin{bmatrix} 1 & 5 \\ 7 & 4 \\ 8 & 11 \end{bmatrix} - \begin{bmatrix} -5 & 8 \\ 4 & -3 \end{bmatrix}$

4. $[2 \ 3 \ -1 \ 5 \ 3 \ -1] \cdot 2 \begin{bmatrix} 4 \\ -2 \\ 1 \\ 4 \\ -1 \\ -6 \end{bmatrix}$

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

Determine if [A] and [B] are inverses by using matrix multiplication and explain why.

$$6. A = \begin{bmatrix} 3 & 5 \\ 2 & 1 \end{bmatrix} \quad B = \begin{bmatrix} 1 & 5 \\ -2 & 3 \end{bmatrix}$$

Evaluate the following.

$$7. \det \begin{bmatrix} -2 & 2 \\ 5 & 7 \end{bmatrix}$$

$$8. \begin{vmatrix} 2 & 9 \\ 0 & -1 \end{vmatrix}$$

Find the inverse of the following matrices. If it's not possible, state not possible and why.

$$9. R = \begin{bmatrix} -2 & 0 \\ -5 & 1 \end{bmatrix}$$

$$10. B = \begin{bmatrix} 3 & 7 \\ -1 & -3 \end{bmatrix}$$

$$11. W = \begin{bmatrix} 5 & 7 \\ -4 & -5 \end{bmatrix}$$

Find the value for the missing element that would matrix F singular.

$$12. G = \begin{bmatrix} -4 & x \\ -1 & 4 \end{bmatrix}$$
