Accelerated Precalculus 5.01-5.04 Quiz Review WS #3: Matrix Operations and Inverses

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

1. $\left(2\begin{bmatrix}0 & 1 & 2\\ -5 & 3 & 0\end{bmatrix}\begin{bmatrix}1 & -2\\ -1 & 4\\ 2 & -3\end{bmatrix}\right) - 3\begin{bmatrix}-4 & 2\\ 1 & -3\end{bmatrix}$

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

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3. $3\begin{bmatrix}6 & 7\\ 2 & 2\\ 5 & 0\end{bmatrix} - 2\begin{bmatrix}1 & 7 & 0\\ -8 & 4 & 1\end{bmatrix}$

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4. $9\begin{bmatrix}2 & -1 & 5 & 3 & -1\end{bmatrix} \cdot 2\begin{bmatrix}4\\ -2\\ 1\\ 4\\ -1\\ -6\end{bmatrix}$

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

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

6. $A = \begin{bmatrix} 7 & 4 \\ 2 & 1 \end{bmatrix}$ $B = \begin{bmatrix} -1 & 4 \\ 2 & -7 \end{bmatrix}$

Evaluate the following.

7. $det \begin{bmatrix} -2 & -3 \\ -5 & 4 \end{bmatrix}$ _____

8. $\begin{vmatrix} 4 & -7 \\ 2 & -1 \end{vmatrix}$ _____

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

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

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

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11. W = $\begin{bmatrix} 5 & 2 \\ -6 & -1 \end{bmatrix}$

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

12. G = $\begin{bmatrix} -2 & x \\ -8 & 5 \end{bmatrix}$ _____