



Practice

4.3 The Inverse of a Matrix

Determine whether each pair of matrices are inverses of each other.

1. $\begin{bmatrix} 4 & -3 \\ -5 & 4 \end{bmatrix}, \begin{bmatrix} 4 & 3 \\ 5 & 4 \end{bmatrix}$ _____

2. $\begin{bmatrix} 5 & -2 \\ -17 & 7 \end{bmatrix}, \begin{bmatrix} 7 & 2 \\ 17 & 5 \end{bmatrix}$ _____

3. $\begin{bmatrix} 6 & 9 \\ 2 & 3 \end{bmatrix}, \begin{bmatrix} 3 & -9 \\ -2 & 6 \end{bmatrix}$ _____

4. $\begin{bmatrix} 3 & -3\frac{2}{3} \\ -4 & 5 \end{bmatrix}, \begin{bmatrix} 15 & 11 \\ 12 & 9 \end{bmatrix}$ _____

5. $\begin{bmatrix} 12 & 5 \\ 14 & 6 \end{bmatrix}, \begin{bmatrix} 3 & -2.5 \\ -7 & 6 \end{bmatrix}$ _____

6. $\begin{bmatrix} \frac{1}{2} & -\frac{1}{8} \\ -\frac{1}{4} & \frac{3}{16} \end{bmatrix}, \begin{bmatrix} 3 & 2 \\ 4 & 8 \end{bmatrix}$ _____

Find the determinant and the inverse of each matrix, if it exists.

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

8. $\begin{bmatrix} 9 & 7 \\ 5 & 4 \end{bmatrix}$ _____

9. $\begin{bmatrix} 8 & 5 \\ 7 & 5 \end{bmatrix}$ _____

10. $\begin{bmatrix} 11 & 6 \\ 7 & 4 \end{bmatrix}$ _____

11. $\begin{bmatrix} 7\frac{1}{2} & 5 \\ 12 & 8 \end{bmatrix}$ _____

12. $\begin{bmatrix} 13 & 3 \\ 16 & 4 \end{bmatrix}$ _____

Find the inverse matrix, if it exists. If the inverse matrix does not exist, write *no inverse*.

13. $\begin{bmatrix} 2 & 1 \\ 3 & 1 \end{bmatrix}$ _____

14. $\begin{bmatrix} 4 & 6 \\ 5 & 7 \end{bmatrix}$ _____

15. $\begin{bmatrix} 6 & 4 \\ -3 & -2 \end{bmatrix}$ _____

16. $\begin{bmatrix} 5 & 3 \\ 2 & 1 \end{bmatrix}$ _____

17. $\begin{bmatrix} \frac{2}{3} & 2 \\ 4 & 12 \end{bmatrix}$ _____

18. $\begin{bmatrix} 1.5 & -2.5 \\ -1 & 2 \end{bmatrix}$ _____