

Find the Inverse of each matrix, if it exists.

$$13) \begin{bmatrix} 4 & -3 \\ 3 & 8 \end{bmatrix}$$

$$15) \begin{bmatrix} 8 & 5 \\ -3 & -2 \end{bmatrix}$$

$$17) \begin{bmatrix} -3 & -6 \\ 2 & 4 \end{bmatrix}$$

$$19) \begin{bmatrix} -2 & 5 \\ 3 & 1 \end{bmatrix}$$

$$21) \text{ Are } \begin{bmatrix} \frac{2}{7} & \frac{5}{7} \\ \frac{1}{7} & \frac{-1}{7} \end{bmatrix} \text{ and } \begin{bmatrix} 1 & 5 \\ 1 & -2 \end{bmatrix} \text{ inverses of each other?}$$

$$23) \text{ Are } \begin{bmatrix} \frac{1}{3} & \frac{-2}{3} \\ \frac{2}{3} & \frac{-1}{3} \end{bmatrix} \text{ and } \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix} \text{ inverses of each other?}$$

Evaluate each determinant.

$$1) \begin{vmatrix} 5 & -3 \\ 4 & -6 \end{vmatrix}$$

$$3) \begin{vmatrix} 3 & -2 & 2 \\ -4 & 2 & -5 \\ -3 & 1 & 4 \end{vmatrix}$$

$$5) \begin{vmatrix} 16 & -10 \\ -8 & 5 \end{vmatrix}$$

$$7) \begin{vmatrix} 8 & 3 & 4 \\ 2 & 4 & 2 \\ 1 & 6 & 5 \end{vmatrix}$$