MORE PRACTICE: Identity and Inverse Matrices

Find the inverse of the matrix (if it exists).

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

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

3. $\begin{bmatrix} 3 & 9 \\ 1 & 3 \end{bmatrix}$

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

5. For the matrices $A = \begin{bmatrix} 2 & 0 \\ -4 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} \frac{1}{2} & 0 \\ 2 & 1 \end{bmatrix}$, PROVE that they are inverses of each other.