

WS-4b

Kuta Software - Infinite Algebra 2

Name \_\_\_\_\_

## Inverse Matrices

Date \_\_\_\_\_ Period \_\_\_\_\_

For each matrix state if an inverse exists.

1)  $\begin{bmatrix} -9 & -9 \\ -2 & -2 \end{bmatrix}$

2)  $\begin{bmatrix} -2 & 1 \\ -6 & 1 \end{bmatrix}$

3)  $\begin{bmatrix} 4 & -5 \\ -9 & 6 \end{bmatrix}$

4)  $\begin{bmatrix} 0 & 0 \\ -6 & 4 \end{bmatrix}$

Find the inverse of each matrix.

5)  $\begin{bmatrix} 11 & -5 \\ 2 & -1 \end{bmatrix}$

6)  $\begin{bmatrix} 0 & -2 \\ -1 & -9 \end{bmatrix}$

7)  $\begin{bmatrix} -1 & 7 \\ -1 & 7 \end{bmatrix}$

8)  $\begin{bmatrix} 1 & -1 \\ -6 & -3 \end{bmatrix}$

$$9) \begin{bmatrix} 3 & -2 \\ -4 & 6 \end{bmatrix}$$

$$10) \begin{bmatrix} -6 & 11 \\ -4 & 7 \end{bmatrix}$$

$$11) \begin{bmatrix} -9 & -6 \\ -5 & -4 \end{bmatrix}$$

$$12) \begin{bmatrix} 5 & -8 \\ 6 & -9 \end{bmatrix}$$

$$13) \begin{bmatrix} 2 & -10 \\ -11 & 8 \end{bmatrix}$$

$$14) \begin{bmatrix} -2 & -2 \\ 6 & 8 \end{bmatrix}$$

$$15) \begin{bmatrix} -2 & 2 \\ -9 & 8 \end{bmatrix}$$

$$16) \begin{bmatrix} -3 & 3 \\ 8 & 7 \end{bmatrix}$$

**Critical thinking questions:**

17) Give an example of a  $2 \times 2$  matrix with no inverse.

18) Give an example of a matrix which is its own inverse (that is, where  $A^{-1} = A$ )