Matrices

Name:_____   Date:_____

Find whether inverse does exist for the given matrices:

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

$\Delta = \underline{\ 21 \neq 0 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

Conclusion: $\underline{\ \text{Inverse Exist} \ \ \ \ \ \ \ \ \ \ }$

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

$\Delta = \underline{\ 0 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

Conclusion: $\underline{\ \text{Inverse Does Not Exist} \ }$

3)
$$\begin{bmatrix} -3 & 1 \\ 6 & -2 \end{bmatrix}$$

$\Delta = \underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

Conclusion: $\underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

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

$\Delta = \underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

Conclusion: $\underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

5)
$$\begin{bmatrix} -2 & 6 \\ 4 & -5 \end{bmatrix}$$

$\Delta = \underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

Conclusion: $\underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

6)
$$\begin{bmatrix} 1 & 5 \\ 2 & 10 \end{bmatrix}$$

$\Delta = \underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

Conclusion: $\underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

7)
$$\begin{bmatrix} 8 & 4 \\ 6 & 3 \end{bmatrix}$$

$\Delta = \underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

Conclusion: $\underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

8)
$$\begin{bmatrix} 3 & 8 \\ 1 & -2 \end{bmatrix}$$

$\Delta = \underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

Conclusion: $\underline{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ }$

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1)
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Δ = 21≠0

Conclusion: Inverse Exist

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

Δ = 0

Conclusion: Inverse Does Not Exist

3)
$$\begin{bmatrix} -3 & 1 \\ 6 & -2 \end{bmatrix}$$

Δ = 0

Conclusion: Inverse Does Not Exist

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

Δ = 23≠0

Conclusion: Inverse Exist

5)
$$\begin{bmatrix} -2 & 6 \\ 4 & -5 \end{bmatrix}$$

Δ = -14≠0

Conclusion: Inverse Exist

6)
$$\begin{bmatrix} 1 & 5 \\ 2 & 10 \end{bmatrix}$$

Δ = 0

Conclusion: Inverse Does Not Exist

7)
$$\begin{bmatrix} 8 & 4 \\ 6 & 3 \end{bmatrix}$$

Δ = 0

Conclusion: Inverse Does Not Exist

8)
$$\begin{bmatrix} 3 & 8 \\ 1 & -2 \end{bmatrix}$$

Δ = -14≠0

Conclusion: Inverse Exist