Student Name: _____   **Score:**

Inverse matrix

Check whether inverse exists for the following matrices:

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

$\Delta =$ ☐

Conclusion: _____

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

$\Delta =$ ☐

Conclusion: _____

$\begin{bmatrix} -3 & -5 \\ 9 & 15 \end{bmatrix}$

$\Delta =$ ☐

Conclusion: _____

$\begin{bmatrix} 4 & 8 \\ 6 & 12 \end{bmatrix}$

$\Delta =$ ☐

Conclusion: _____

$\begin{bmatrix} 7 & 4 \\ 5 & 2 \end{bmatrix}$

$\Delta =$ ☐

Conclusion: _____

$\begin{bmatrix} 11 & 3 \\ 6 & 4 \end{bmatrix}$

$\Delta =$ ☐

Conclusion: _____

$\begin{bmatrix} -4 & -7 \\ 8 & 12 \end{bmatrix}$

$\Delta =$ ☐

Conclusion: _____

$\begin{bmatrix} -4 & 16 \\ -2 & 8 \end{bmatrix}$

$\Delta =$ ☐

Conclusion: _____

Answer Key

$$\boxed{\textbf{Inverse matrix}}$$ ES1

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

$\Delta = -32 \neq 0$

Conclusion: Inverse exists

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

$\Delta = 0$

Conclusion: Inverse does not exist

$$\begin{bmatrix} -3 & -5 \\ 9 & 15 \end{bmatrix}$$

$\Delta = 0$

Conclusion: Inverse does not exist

$$\begin{bmatrix} 4 & 8 \\ 6 & 12 \end{bmatrix}$$

$\Delta = 0$

Conclusion: Inverse does not exist

$$\begin{bmatrix} 7 & 4 \\ 5 & 2 \end{bmatrix}$$

$\Delta = -6 \neq 0$

Conclusion: Inverse exists

$$\begin{bmatrix} 11 & 3 \\ 6 & 4 \end{bmatrix}$$

$\Delta = 26 \neq 0$

Conclusion: Inverse exists

$$\begin{bmatrix} -4 & -7 \\ 8 & 12 \end{bmatrix}$$

$\Delta = 8 \neq 0$

Conclusion: Inverse exists

$$\begin{bmatrix} -4 & 16 \\ -2 & 8 \end{bmatrix}$$

$\Delta = 0$

Conclusion: Inverse does not exist