Number: Textbook Section:
Title:

2 x 2 identity matrix:

3 x 3 identity matrix:

n x *n* identity matrix:

1. Let $A = \begin{bmatrix} 2 & 1 \\ 3 & -5 \end{bmatrix}$. Multiply $I_2 A$ and AI_2.

2. Let $B = \begin{bmatrix} 3 & -4 & 1 \\ -9 & 7 & 6 \\ 8 & \pi & e \end{bmatrix}$. Multiply $I_3 B$ and BI_3.

To find the inverse of a matrix A:

Note:

3. Let $A = \begin{bmatrix} 2 & -5 \\ 3 & -6 \end{bmatrix}$. Find A^{-1}. Then verify that A^{-1} is the inverse of A by multiplying AA^{-1} or $A^{-1}A$.

4. Show that the matrix $\begin{bmatrix} -3 & 1/2 \\ 6 & -1 \end{bmatrix}$ has no inverse.

5. Let $B = \begin{bmatrix} 3 & 3 & 1 \\ 1 & 2 & 1 \\ 2 & -1 & 1 \end{bmatrix}$. Find B^{-1} and verify by multiplying.

6. Let $A = \begin{bmatrix} 2 & x \\ x & x^2 \end{bmatrix}$. Find A^{-1}. For what value(s) of *x*, if any, does A^{-1} not exist?