

A square matrix is any matrix that has the same a number of rows as columns.

Task 1:

- Create an example of a square matrix.
- Create an example that would not be a square matrix.

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

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$$

The multiplicative identity matrix is any square matrix, named with the letter I , that has all the entries along the main diagonal equal to 1 and all of the other entries equal to 0.

$$I_{2 \times 2} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

Because square matrices can be multiplied by themselves any number of times, you can find powers of square matrices.

Task 3:

Create the identity matrix for a 5 x 5.

$$I_{5 \times 5} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

The main diagonal of a square matrix is the diagonal from the upper left corner to the lower right corner.

Task 2:

Create a square matrix of your choice and circle the main diagonal of your matrix.

$$\begin{bmatrix} 1 & 0 & 1 \\ 2 & 3 & 2 \\ 4 & 6 & 4 \end{bmatrix}$$

Calculator Steps, Tips, & Reminders!

2nd x^{-1} = Matrix

→ 2x to Edit

Enter matrix of choice.

2nd Mode = Quit $^{-1}$

Add/Subtract: 2nd x^{-1} ; Names choose matrices to operate.

Scalar: #; 2nd x^{-1} ; Names choose the matrix

Multiply: 2nd x^{-1} ; Names choose matrices. order matters.

Still need help with: