Definition:

A matrix : _____

Example:

$$A = \begin{bmatrix} 2 & 0 & 7 \\ -4 & 5 & 1 \end{bmatrix}$$

How are matrices named?

Definition:
Dimensions of a matrix:

Examples:

$$\begin{bmatrix} 2 & 0 & 7 \\ -4 & 5 & 1 \end{bmatrix}$$

DIMENSIONS

$$\begin{bmatrix} 2 \\ -3 \\ 4 \\ 12 \end{bmatrix}$$

DIMENSIONS

Example:

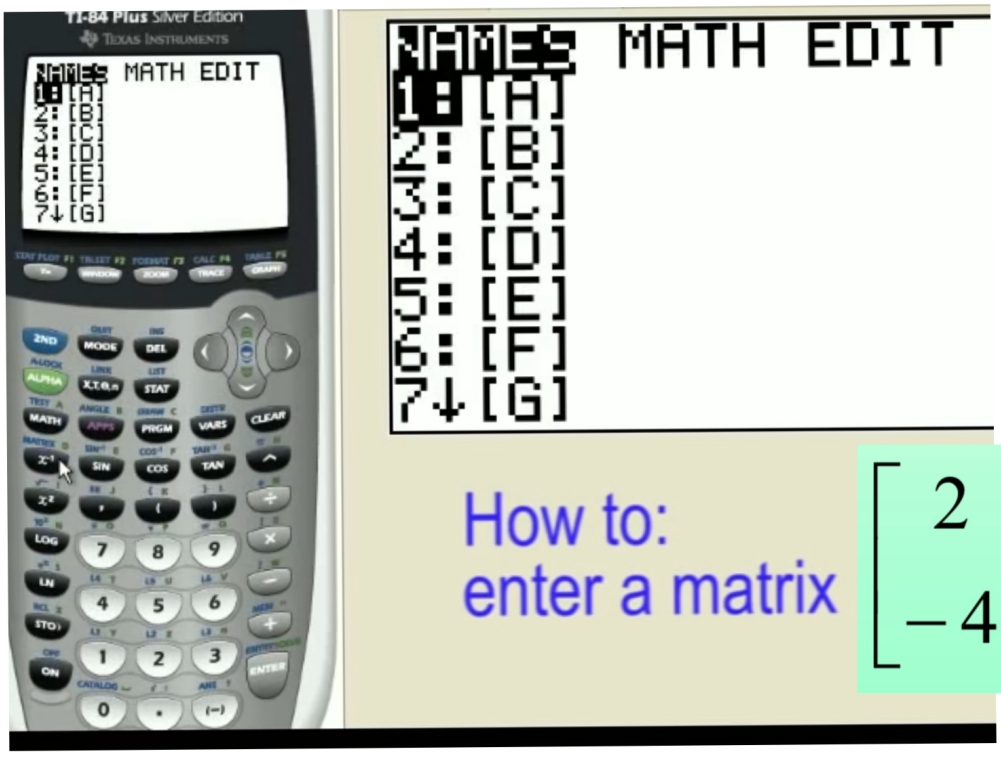
The entry at row 2, column 3

$$\begin{bmatrix} 2 & 0 & 7 \\ -4 & 5 & 1 \end{bmatrix}$$

ANSWER

Definition:
Elements of a matrix:

Matrices on the Calculator



Your calculator pic:

Rule for Adding/Subtracting Matrices

Examples:

$$\begin{bmatrix} 2 & 0 & 7 \\ -4 & 5 & 1 \end{bmatrix} + \begin{bmatrix} 4 & -8 & 1 \\ 9 & 5 & 0 \end{bmatrix} = _____$$

$$\begin{bmatrix} 4 \\ 3 \end{bmatrix} + \begin{bmatrix} 6 & 0 \\ -2 & 7 \end{bmatrix} = _____$$

YOUR CALCULATOR PICS

Definition:

A scalar: _____

How to multiply a scalar by a matrix:

RULE: _____

$$3 \cdot \begin{bmatrix} 2 & 0 & 7 \\ -4 & 5 & 1 \end{bmatrix} =$$

_____

↑

Your calculator pic

Use your calculator to find each sum or difference:

$$A=\begin{bmatrix} 2 & 0 & 7 \\ -4 & 5 & 1 \end{bmatrix} \quad B=\begin{bmatrix} 5 & 1 & 3 \\ 9 & -8 & -1 \end{bmatrix} \quad C=\begin{bmatrix} 5 & -3 \\ 1 & 0 \end{bmatrix} \quad D=\begin{bmatrix} -4 & 7 \\ 9 & 2 \end{bmatrix}$$

1) A + B

2) B + A

3) A - 2C

4) 5C - 4D

Your calculator pics:

1

2

3

4

Rule for multiplying matrices:

Is it possible to multiply?

Example:

$$\begin{bmatrix} 2 & 0 & 7 \\ -4 & 5 & 1 \end{bmatrix} \cdot \begin{bmatrix} 6 & 0 & 21 \\ -12 & 15 & 3 \end{bmatrix}$$

$$\begin{bmatrix} 3 & 1 \\ 7 & 2 \end{bmatrix} \cdot \begin{bmatrix} 6 & 0 & 21 \\ -12 & 15 & 3 \end{bmatrix}$$

Can these matrices be multiplied?

1) $\begin{bmatrix} -5 \\ 6 \\ 0 \end{bmatrix} \cdot \begin{bmatrix} 3 & -1 \end{bmatrix}$

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

Your calculator pics