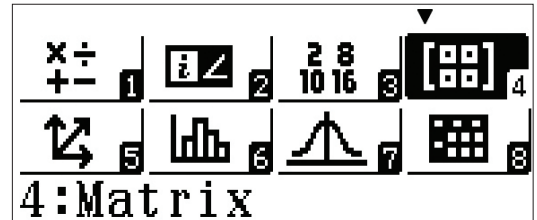


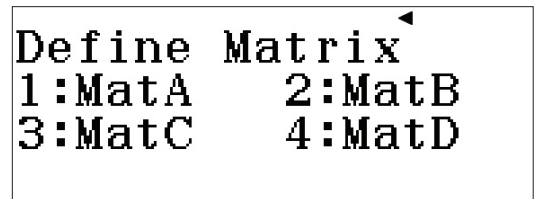
MATRIX

Operations with matrices and matrix related calculations are all located in the Matrix Menu.

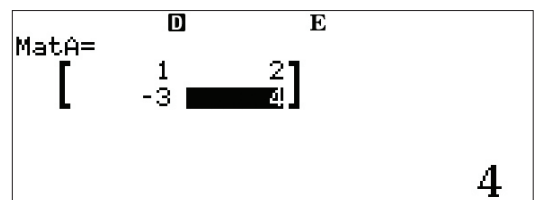
From the Main Menu, use the arrow keys to highlight the Matrix icon and press \equiv or press $\boxed{4}$.



To enter matrices, first, define the matrix.



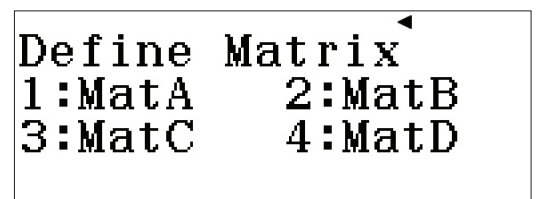
Press $\boxed{1}$ (MatA) $\boxed{2}$ (Rows) $\boxed{2}$ (Columns) $\boxed{1}$ \equiv $\boxed{2}$ \equiv $\boxed{\leftarrow}$ $\boxed{3}$ \equiv $\boxed{4}$ \equiv .



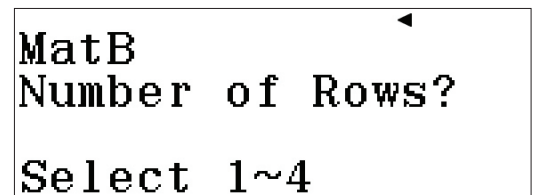
To enter a second matrix, press $\boxed{\text{OPTN}}$.



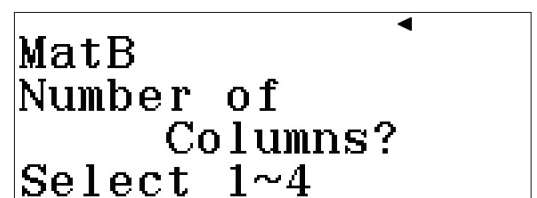
From the resulting popup window, press $\boxed{1}$ (Define Matrix) $\boxed{2}$ (MatB).



Select the number of rows, $\boxed{2}$ (Rows).



Select the number of columns, $\boxed{2}$ (Columns).



MATRIX

Enter the matrix values by pressing

3 **⌋** **(←)** **6** **⌋** **8** **⌋** **2** **⌋**.

To perform matrix calculations, like addition, subtraction, and multiplication, follow these simple commands.

To enter Matrix calculation, press **AC**.

To recall the name of a matrix, press **OPTN**.

To add $A + B$, press **3** (MatA) **+** **OPTN** **4** (MatB) **⌋**.

The solution matrix is displayed in the window and can be viewed without scrolling.

To calculate the determinant of the matrix, press

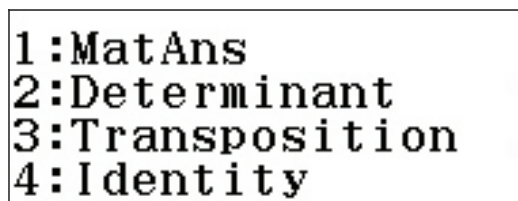
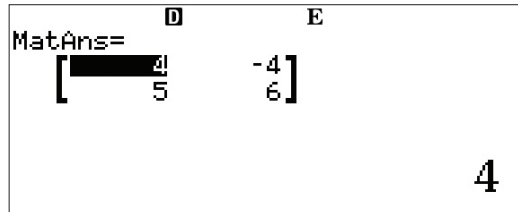
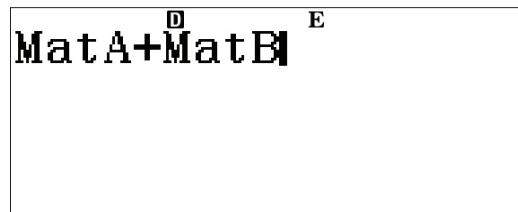
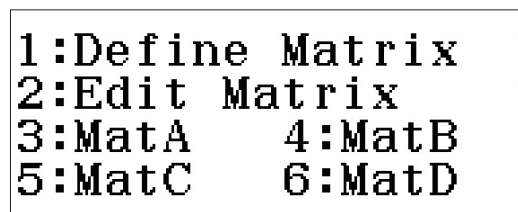
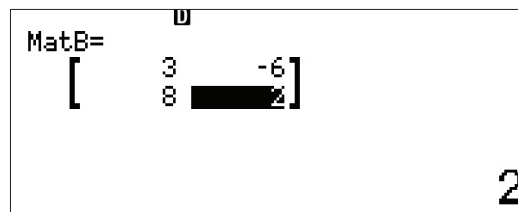
OPTN **⌋** **2** (Determinant) **OPTN** **3** (MatA) **⌋** **⌋**.

Matrices can be used to solve a system of equations.

Take the following equation with 3 unknowns:

$$\begin{cases} x + y = 3 \\ -x + 3y + 4z = -3 \\ 4y + 3z = 2 \end{cases}$$

Enter the coefficient matrix as Matrix A and the solution matrix as Matrix B.



MATRIX

Redefine the matrices by pressing **OPTN** **1**
(Define Matrix).

Press **1** (MatA) to define Matrix A and enter the
3 x 3 coefficient matrix.

Select the number of rows, **3** (Rows).

Select the number of columns, **3** (Columns).

Enter the values of the coefficients, pressing **⇐** after
each one to move to the next value.

Now, enter the 3 x 1 solution matrix as Matrix B.

Press **OPTN** **1** (Define Matrix).

Define Matrix B **2** (MatB) as a 3 x 1, so select **3** (Rows)
and **1** (Columns) from the next two windows.

```
1:Define Matrix
2:Edit Matrix
3:MatA      4:MatB
5:MatC      6:MatD
```

```
Define Matrix
1:MatA      2:MatB
3:MatC      4:MatD
```

```
MatA
Number of Rows?
Select 1~4
```

```
MatA
Number of
  Columns?
Select 1~4
```

```
MatA=      D      E
[  1      1      0 ]
 [ -1     3      4 ]
 [  0     4      3 ]
```

3

```
1:Define Matrix
2:Edit Matrix
3:Matrix Calc
```

```
Define Matrix
1:MatA      2:MatB
3:MatC      4:MatD
```

MATRIX

Enter the values of the coefficients, pressing \square after each one to move to the next value.

Press \square to return to the Matrix Calculation screen.

The solution can be found by calculating $A^{-1} \times B$.

Press \square \square (MatA) \square \square (MatB) \square .

The solution represents the following:

$$\begin{cases} x = 1 \\ y = 2 \\ z = -2 \end{cases}$$

This same system can also be solved using the Equation icon.

