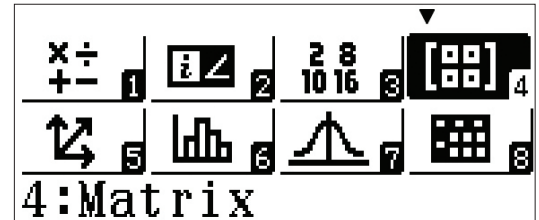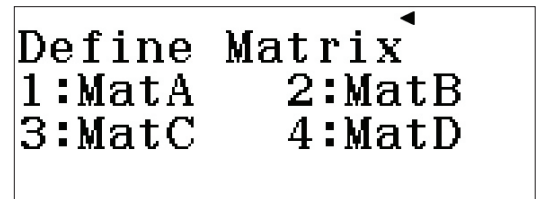Operations with matrices and matrix related calculations are all located in the Matrix Menu.

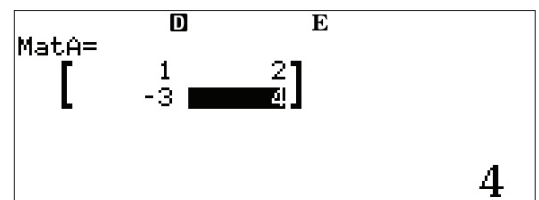From the Main Menu, use the arrow keys to highlight the Matrix icon and press ▭ or press ④.

```
x÷ 1  i∠ 2  2 8 3  [::] 4
            10 16
↰ 5  ᴵᴵᴵ 6  ◿ 7  ▦ 8
4:Matrix
```

To enter matrices, first, define the matrix.

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

Press ① (MatA) ② (Rows) ② (Columns)
① ▭ ② ▭ ⍾ ③ ▭ ④ ▭.

```
MatA=   D      E
   [  1    2]
    -3    4]

                4
```

To enter a second matrix, press OPTN.

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

From the resulting popup window, press ① (Define Matrix) ② (MatB).
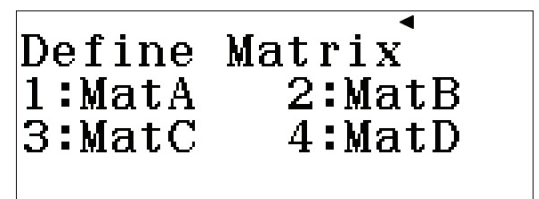
```
Define Matrix◄
1:MatA    2:MatB
3:MatC    4:MatD
```

Select the number of rows, ② (Rows).

```
MatB           ◄
Number of Rows?

Select 1~4
```

Select the number of columns, ② (Columns).

```
MatB           ◄
Number of
     Columns?
Select 1~4
```
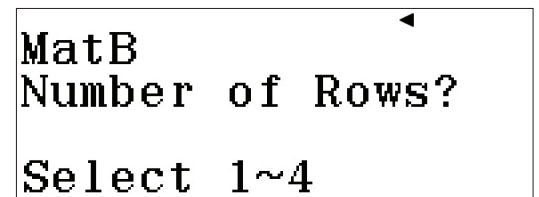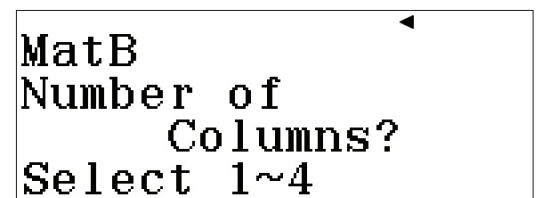
Enter the matrix values by pressing
③ 🟰 ⊝ ⑥ 🟰 ⑧ 🟰 ② 🟰.

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.
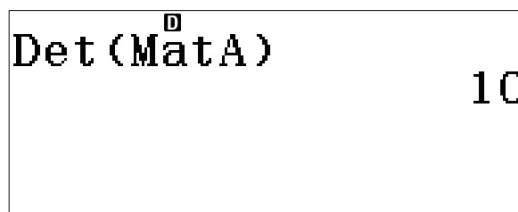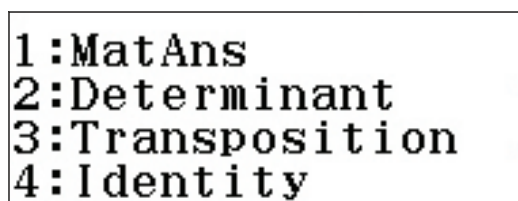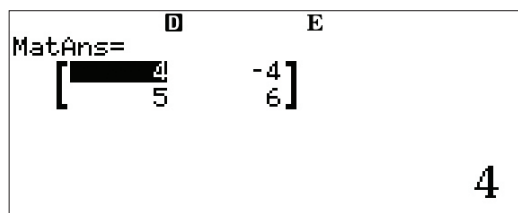
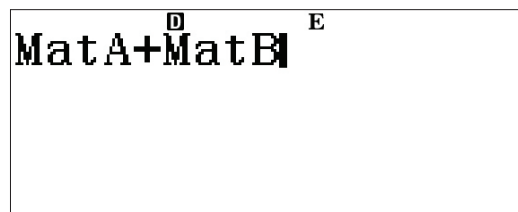To calculate the determinant of the matrix, press
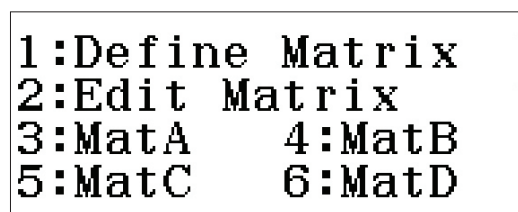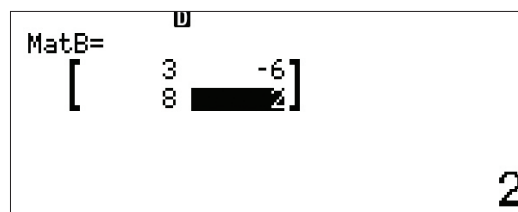[OPTN] ⬇ ② (Determinant) [OPTN] ③ (MatA) ⦆ 🟰.

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.

Redefine the matricies by pressing OPTN 1
(Define Matrix).

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

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

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

Select the number of rows, 3 (Rows).

```
MatA            ◄
Number of Rows?

Select 1~4
```

Select the number of columns, 3 (Columns).

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

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

```
          D       E
MatA=
      1     1     0
     -1     3     4
      0     4     8

                    3
```

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

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

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.

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

Enter the values of the coefficients, pressing ⌊=⌋ after each one to move to the next value.

```
MatB=
      3
     -3
     2
              2
```

Press ⌊AC⌋ to return to the Matrix Calculation screen.

```
              Matrix
```

The solution can be found by calculating A⁻¹ x B.

Press ⌊OPTN⌋ ⌊3⌋ (MatA) ⌊x⁻¹⌋ ⌊×⌋ ⌊OPTN⌋ ⌊4⌋ (MatB) ⌊=⌋ .

```
MatA⁻¹×MatB
```

The solution represents the following:

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

```
MatAns=
      1
      2
     -2
              1
```

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