

SOLVING SYSTEMS OF EQUATIONS ON A GRAPHING CALCULATOR

NOTE #1: Make sure that matrix is arranged so coefficients of a variable are all in the same column and that the last column represents the constants.

NOTE #2: Some calculators will not solve matrices that are longer than they are wide. Add columns of zeros, if necessary. You can then ignore the added columns – answer is not affected.

TI- 83/84 [TI-82 differences given in brackets]

To enter a matrix:

1. Press **2ND** and **MATRIX** keys. (**MATRIX** is above **x⁻¹** key) Matrix menu will appear.
[TI-82: just use **MATRIX** key]
2. Move cursor to **EDIT**.
3. Pick matrix name, like [A] and press **ENTER**.
4. Type in size of matrix as no. of rows, **ENTER**, no. of columns, **ENTER**. Don't worry if there are numbers in the matrix already as you will replace them.
5. Enter the elements of the matrix, row by row, pressing **ENTER** after each value. (Use the arrow keys to edit within the matrix.)
6. When matrix is complete, press **2ND** and **QUIT** keys.

To get matrix in row-reduced echelon form (rref)

1. Press **2ND** and **MATRIX** keys. [TI-82: no rref available, must use row commands]
 2. Move cursor to **MATH**. Scroll down to B:rref(or just press **ALPHA** and **B**.
 3. Press **2ND**, **MATRIX** and select the matrix (Pressing **ENTER**) and a closing parenthesis. Command looks like: rref([A])
 4. Press **ENTER** again and the reduced matrix should appear.
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To enter a matrix:

1. Press **2ND** and **MATRIX** keys. (**MATRIX** is above **7** key) Matrix menu will appear.
2. Select **EDIT** (F2) from menu.
3. Select an existing matrix name or type in a single letter, like A and press **ENTER**.
4. Type in size of matrix as no. of rows, **ENTER**, no. of columns, **ENTER**. Don't worry if there are numbers in the matrix already as you will replace them.
5. Enter the elements of the matrix, row by row, pressing **ENTER** after each value. (Use the **< COL** and **COL >** keys to edit within the matrix.)
6. When matrix is complete, press **2ND** and **QUIT** keys.

To get matrix in row-reduced echelon form (rref)

1. Press **2ND** and **MATRIX** keys.
2. Select **OPS** (F4) from the menu. Select **rref** (F5) from the menu
3. Type in the matrix name (example: **ALPHA** and A). Command looks like: rref A
4. Press **ENTER** again and the reduced matrix should appear.

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To enter a matrix:

1. Press **2ND** and **MATRIX** keys. (**MATRIX** is above **7** key) Matrix menu will appear.
2. Select **EDIT** (F2) .
3. Type in a single letter, like A and press **ENTER** .
4. Type in size of matrix as no. of rows, **ENTER** , no. of columns, **ENTER** . Don't worry if there are numbers in the matrix already as you will replace them.
5. Enter the elements of the matrix, row by row, pressing **ENTER** after each value. (Use the arrow keys to edit within the matrix.)
6. When matrix is complete, press **2ND** and **QUIT** keys.

To get matrix in row-reduced echelon form (rref)

1. Press **2ND** and **MATRIX** keys.
2. Select **OPS** (F4) from the menu. Select **rref** (F5) from the menu
3. Type in the matrix name (example: **ALPHA** and A). Command looks like: rref A
4. Press **ENTER** again and the reduced matrix should appear.

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To enter a matrix:

1. Press **APPS** key and select **6:Data/Matrix** Editor.
2. Select **3:New** from menu. (if editing an existing matrix, select **1:Current** and skip to step 5)
3. Set: Type: **Matrix**
Folder: **Main**
Variable: a (or other name for matrix)
Row dimension: no. of rows in matrix
Col dimension: no. of columns in matrix
4. Press **ENTER** . If “variable in use” error occurs, it means you may already have a matrix by that name. Go back to step 2 and either choose a new matrix name or select the current option.
5. Enter the elements of the matrix, row by row, pressing **ENTER** after each value. (Use the arrow keys to edit within the matrix.) If reusing an existing matrix, be sure the cells that are not needed are blank by using the F6 Util options to delete rows and column values.
6. When matrix is complete, press **2ND** and **ESC** (QUIT) keys. You should be in the home screen.

To get matrix in row-reduced echelon form (rref)

1. Press **HOME** key, if not in the home screen. Press **2ND** and **MATH** keys.
2. Select **4:Matrix**, then select **4:rref(**
3. Type in the matrix name (example: **ALPHA** and a) and closing parenthesis. Command looks like: rref (a)
4. Press **ENTER** and the reduced matrix should appear.