

Matrices for the TI-83 Family (TI-83, TI-83+, TI-83+ SE)

The following instructions explain key-by-key keystrokes necessary to enter a linear system of equations and how to solve them. First, create the matrix of coefficients. Then, create the matrix of constants. The dimensions appropriate for solving n equations in n unknowns are:

Matrix of coefficients [n x n]; and Matrix of constants [n x 1]

Creating the matrix of coefficients.

1. Press **2nd Matrix**

You will see: NAMES MATH EDIT

2. Use the arrow keys twice \gg to highlight EDIT.

It is currently on [A]: Press **ENTER** to select [A]

You will see: MATRIX [A] 1 x 1 (or whatever dimension was previously selected for A.)

3. (**enter the number of rows** by overtyping the first number. Use the \gg to move over to the **2nd** number and overtype it with the **number of columns**. Then press **ENTER**.)

4. At the bottom of the screen you will see 1,1 =

It is ready for you to enter element (1,1). Enter the value and press **ENTER**.

The cursor automatically moves to the next element for you to enter.

(If you make a mistake move the cursor with the arrow keys and type in another number.)

5. To exit the MATRIX-EDIT (entry) mode, press **2nd QUIT**.

Creating the matrix of constants.

Repeat the 5-step procedure above to enter the matrix of constants. Use [B] to store these values.

Solving for the unknowns.

At the home screen enter: [A] x^{-1} [B]

Here are the keystrokes required to enter this expression.

2nd MATRIX ENTER x^{-1} 2nd MATRIX (use the down arrow to select 2. [B]) **ENTER**

OR (you could instead enter)

2nd [ALPHA A 2nd] x^{-1} 2nd [ALPHA B 2nd]