

0.13 Inverse Matrices

To find the inverse of a given matrix, we do one of the following on the calculator.

(Remember to indicate in the *Mode Setting* for **Float** at least one decimal place, so you will know if the numbers are integers or rationals.)

1. Enter the same matrix we would solve by hand to find the inverse matrix, the coefficient matrix A on the left and the identity matrix on the right. Use the elementary row operations to convert the left side to the identity matrix. The right side will be the inverse matrix A^{-1} .

2. Let the calculator find the inverse matrix:

- Enter the coefficient matrix, $[A]$.
- On the Home screen, specify matrix $[A]$, then use x^{-1} to indicate, $[A]^{-1}$.

TI-83: Key x^{-1} is to the left of the \sin key.

TI-89: To get x^{-1} , use Catalog . If the functions shown do not start with $\text{abs}(\ ,$ then press Alpha together with A . Once you see $\text{abs}(\ ,$ press the up arrow until you find \wedge^{-1} . Now press Enter .

TI-86: To get x^{-1} , use 2^{nd} and EE .

After you see $[A]^{-1}$ on the screen, press Enter .

- Save the inverse as matrix $[B]$, and then use it as needed.

Check with your instructor to verify which method will be acceptable.