Using Sage

inputting a matrix:

" A = matrix([[contents of row 1], [cont. row 2], ...]) "

Reduce a matrix:

to reduce matrix B
first input the matrix B
then

" B.rref() "

inverse of a matrix:

input the matrix A

" A.inverse() "

algebra:

as expected

* note: write out implicit multiplication
do: " 5*A " not "5A"
do: " A*(B-C) " not "A(B-C)"

transpose:

" A.transpose() " or " A.T "