

# Mathematics Packages on Athena

## Mathematics Packages on Athena

Mathematics Software Packages on Athena.

These packages vary widely in their capabilities. Which is best for you depends on what you are trying to do. The packages annotated with Recommended are the ones that you are most likely to get help on.

On this page:

- Matlab, (Recommended).
- Xess, (Recommended).
- Maple, (Recommended).
- Mathematica.
- xcalc
- bc
- SAS
- The mathlibrary locker.

### Matlab, (Recommended).

Matlab, located in the matlab locker, is a powerful mathematics (and especially matrix) manipulation program, which works numerically with up to double precision floating point accuracy. Matlab has a number of packages directly applicable to engineers, such as plot bode curves, optimize filters, find filter coefficients, and DSP. A graphic interface (simulink) can be used to put together and simulate complicated dynamical systems. SIPB puts out a useful "Inessential Matlab" document. See [MATLAB Landing Page](#)

### Xess, (Recommended).

Xess, in the xess locker, is a scientific spreadsheet, which contains a number of mathematical, statistical, and logical functions, and can draw (moderately simple) graphs.

### Maple, (Recommended).

Maple, in the maple locker, is a symbolic math program (with a somewhat cranky interface). Some further information on Maple is available at <http://web.mit.edu/maple/www/maple.html>

### Mathematica.

Mathematica, in the math locker, is a programming environment for performing both symbolic and numerical calculations as well as displaying and formatting the output. It can process algebra, calculus, graphics, sounds, and more, and includes a large set of add-on packages to customize it for specific tasks such as discrete math, statistics, linear algebra, and number theory. In addition to the built in help, there's extensive documentation on the [Wolfram web site](#)

### xcalc

xcalc (no locker need be attached) is a simple scientific calculator.

### bc

bc (no locker need be attached) is a simple calculator with a text interface.

### SAS

SAS, in the SAS locker, is an integrated application for data access, management, analysis, and presentation. Available only on Suns.

## The mathlibrary locker.

The mathlibrary locker has been set up to make it easier for "one stop shopping" for mathematical routines for use on Athena. The Mathlibrary presently includes:

- - lapack, a library of Fortran subroutines for linear algebra recipes
  - the software from the book "Numerical Recipes, the Art of Scientific Computing"
  - a collection of C++ code from the netlib server
  - NA-digest, an archive of the NA-NET news digest

Full details on the locker are in mathlibrary/README. Much of this stuff is from circa 1997, and seems to have fallen into disrepair. If you are in need of a particular solution, do ask.

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