

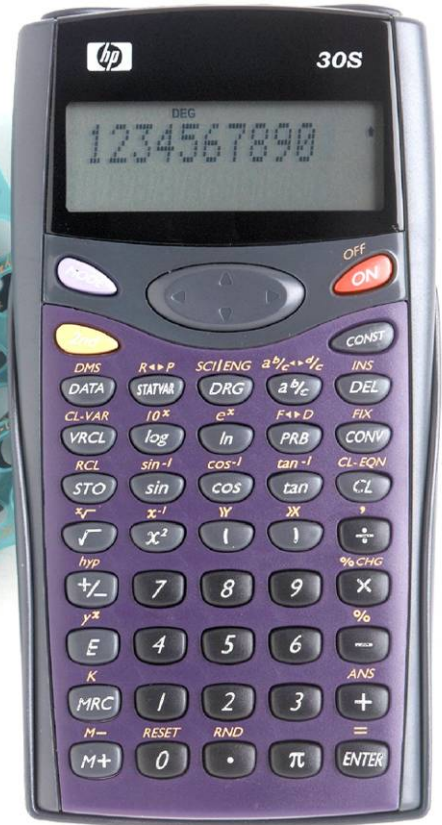


hp calculators

HP 30S Introduction to the Learning Modules

Use of the Learning Modules

The HP 30S Learning Modules
















## Use of the learning modules

Traditionally, the HP owner's manuals have been second to none in the calculator industry. Being determined to keep up this tradition, HP provides these learning modules to help readers learn about the HP 30S, or to gain experience in its use. They complement the handy, concise manual included with the calculator, and offer a hands-on way to try some of the many HP 30S features. Readers who do not have an HP 30S but wish to learn about it can benefit by studying these aids too. These documents can be printed on a black and white printer with no loss of information.

The learning modules start with a brief introduction to the topic, whose purpose, far from being a substitute for a good textbook, is to provide a summary of the main concepts that will later be demonstrated by the examples. Definitions, main theorems and properties are stated as clearly and concisely as possible.

The examples are the essential part of the learning modules. Their purpose is to demonstrate the capabilities of the calculator by providing the reader with ways of solving the commonest problems. They are provided purely for practice and do not represent any real situations or people, though.

Once again, instructions are given as clearly as possible: special symbols are used to show the sequence of keystrokes that perform the calculation. The four cursor keys, up, down, left and right, are shown as ▲, ▼, ◀ and ▶ respectively. The keys next to them, MODE, 2nd, ON and CONST are shown as , ,  and . Shifted keys (i.e. gold keys on the HP 30S keyboard that are pressed after the 2nd key) are shown as they appear on the keyboard. For example to get the exponential function,  $e^x$ , it is necessary to press the shift key  and then the  key. This would be shown in the learning modules as  .

The learning modules assume that the HP 30S modes and settings are as they would be when a new HP 9g is turned on the first time. Changes to these settings needed for examples are described in the modules. After some examples have been worked through, the HP 30S settings might be very different from the original ones. A quick way to return to the standard settings is to perform a Memory Clear (refer to the learning module *Clearing, Editing and Correcting*), but note that this will clear all of the calculator memory: press the sequence   , or the keys  and  keys at the same time if the calculator does not respond to keystrokes.

But remember, DO NOT DO THIS IF YOU WANT TO KEEP ANY PROGRAMS, EQUATIONS OR DATA THAT ARE IN YOUR CALCULATOR. If you want to keep what is in memory but return the settings to their original values, you will have to change the settings one by one.

## The HP 30S learning modules

- ◆ Basic Arithmetic  
Practice Doing Arithmetic.
- ◆ Operating Modes and Display Format  
The MODE Key. The HOME Mode. The STAT Mode. The L SOLV and Q SOLV Modes. The Angle Mode. Display Format.
- ◆ Clearing, Editing and Correcting  
Resetting and Clearing Memory. Editing and Correcting the Entry Line. Practice Editing the Entry Line
- ◆ Using Memories to Solve Problems  
The History Stack and the Last Answer Function. The Memory Variables. The Running Memory and the Constant Expression. Practice Using Memories to Solve Problems.

- ◆ Logarithmic Functions  
Logarithms and Antilogarithms. Practice Solving Problems Involving Logarithms
- ◆ Solving Trigonometry Problems  
The Trigonometric Functions. The Angular Unit. Practice Solving Problems Involving Trigonometric Functions.
- ◆ Hyperbolic Functions  
Hyperbolic Functions. Practice Using Hyperbolic Functions.
- ◆ Powers and Roots  
Powers and Roots. Practice Solving Problems Involving Powers and Roots.
- ◆ Solving Problems Involving Percents  
Percentages. Practice Working Problems Involving Percentages.
- ◆ Solving Problems Involving Fractions  
Basic Concepts. Fractions on the HP 30S. Practice Working Problems Involving Fractions
- ◆ Solving Problems Involving Unit Conversions  
Metric Units and Imperial Units. The CONV Menu. Practice Working Problems Involving Conversions.
- ◆ Solving Problems Involving Complex Numbers  
Basic Concepts. Practice Solving Problems Involving Complex Numbers.
- ◆ Statistics – Averages and Standard Deviations  
Average, Standard Deviation and other Statistics. Practice Finding Averages and Standard Deviations.
- ◆ Probability – Rearranging Items  
Rearranging Items. Practice Solving Problems Involving Factorials, Permutations, and Combinations.
- ◆ Statistics – Linear Regression  
Linear Regression. Practice Solving Linear Regression Problems.
- ◆ Base Conversions  
Numbers in Different Bases. Practice Working with Numbers in Different Bases.
- ◆ Polar/Rectangular Coordinate Conversions  
Rectangular and Polar Coordinates. Practice Solving Problems Involving Coordinate Conversions.
- ◆ Solving Compound Interest Problems  
Compound Interest. Practice Solving Compound Interest Problems.
- ◆ Converting Angles and Times  
Angle Measurements. Time Measurements. Practice Solving Problems Involving Angles and Times.
- ◆ Solving Linear Systems  
The L SOLV Mode. Practice Solving Linear Systems.
- ◆ Solving Quadratic Equations  
The Q SOLV Mode. Practice Solving Quadratic Equations
- ◆ Working with Expressions  
Expressions on the HP 30S.
- ◆ Using the Built-in Physical Constants  
The CONST Menu. Practice Solving Problems Involving Physical Constants
- ◆ Probability – Random Numbers  
Random Numbers. Simulation. Practice Using Random Numbers for Simulations.