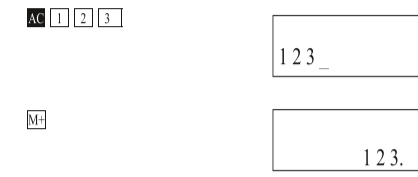
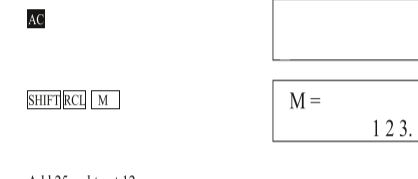


Example Input 123 to independent memory.



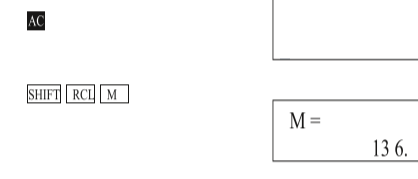
Recall memory data.



Add 25, subtract 12



Recall memory data.



To clear memory contents, press [MC] [M].

Addition/subtraction to or from sum in memory cannot be carried out with [MC] [M] keys in SD mode and LR mode.

Difference between [STO] and [M+] is that [M+] can be used to input results into memory.

Table with 3 columns: Example, Operation, Display. Contains various mathematical operations and their results.

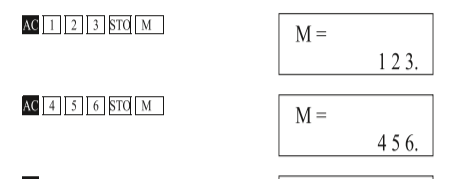
Performing hyperbolic and inverse hyperbolic functions

The following operation is invalid in the BASE-N mode. When the user is in the BASE-N mode, he/she should go back to COMP mode before carrying out calculation.

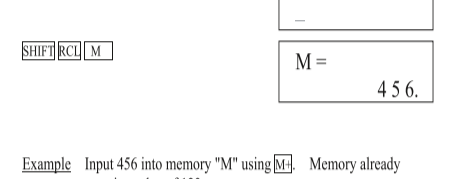
Table with 3 columns: Example, Operation, Display. Shows hyperbolic and inverse hyperbolic function calculations.

however when the [STO] operation is used, previous memory contents are cleared. When either [M+] or [M-] is used, value is added or subtracted to or from present sum in memory.

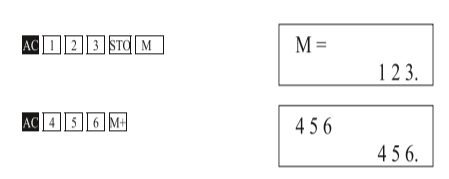
Example Input 456 into memory "M" using [M+] procedure. Memory already contains value of 123.



Recall memory data.



Example Input 456 into memory "M" using [M-] Memory already contains value of 123.



Recall memory data.



Coordinate transformation

- This scientific calculator lets you convert between rectangular coordinates and polar coordinates, i.e., P(x, y) ↔ P(r, θ). Calculation results are stored in variable memory E and variable memory F. Contents of variable memory E are displayed initially. To display contents of memory F, press [F] [E]. With polar coordinates, θ can be calculated within a range of -180° < θ ≤ 180°. (Calculated range is the same with radians or grads.) The following operation is invalid in the BASE-N mode. Before carry out calculation, one should switch back to COMP mode.

Table with 3 columns: Example, Operation, Display. Shows coordinate transformation calculations.

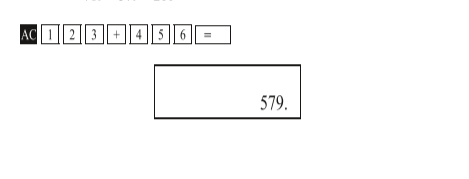
Special Functions

Answer function

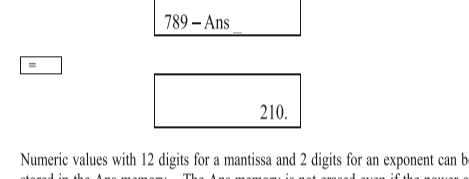
This unit has an answer function that stores the result of the most recent calculation. Once a numeric value or numeric expression is entered and [=] is pressed, the result is stored by this function.

To recall the stored value, press [RCL] [ANS]. When [RCL] [ANS] are pressed, "Ans" will appear on the display, and the value can be used in subsequent calculations.

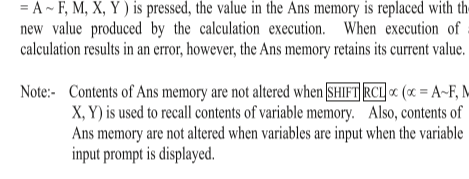
Example 123 + 456 = 579



Example Input 456 into memory "M" using [M+] Memory already contains value of 123.



Recall memory data.



Other functions (sqrt, x^y, x^1/x, x!, 1/x, Ran#)

The following operations are invalid in the BASE-N mode. When in the BASE-N mode, carry out calculation after going back to COMP mode.

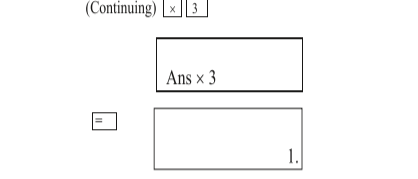
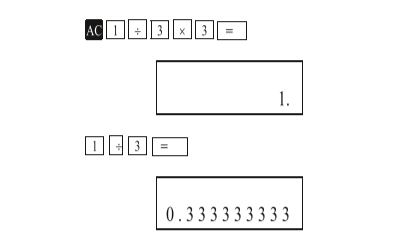
Table with 3 columns: Example, Operation, Display. Shows various mathematical functions like square root, powers, and reciprocals.

Omitting the multiplication sign (*)

When inputting a formula as it is written, from left to right, it is possible to omit the multiplication sign (*) in the following cases -

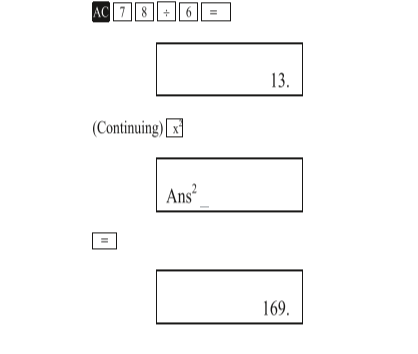
- 1) Before the following functions: sin, cos, tan, sin^-, cos^-, tan^-, sinh, cosh, tanh, sinh^-, cosh^-, tanh^-, log, ln, 10^x, e^x, 1/e^x, Pol(x), Rec(x, θ)
2) Before fixed numbers, variables and memories - example: 2x, 2AB, 3Ans, etc.
3) Before parentheses - example: 3(5+6), A(1+B)-1, etc.

Example To calculate 1 + 3 x 3 = :



This function can be used with Type A functions (x^2, x^1/x, x!), 1/x, x^y, 1/x^y and n^x

Example Squaring the result of 78 ÷ 6 = 13 :



Fractions

Fractions are input and displayed in the order of integer, numerator and denominator.

Table with 3 columns: Example, Operation, Display. Shows fraction calculations and conversions.

Degrees, Minutes, Seconds Calculations

You can perform sexagesimal calculations using degrees (°), minutes and seconds. And convert between sexagesimal and decimal values.

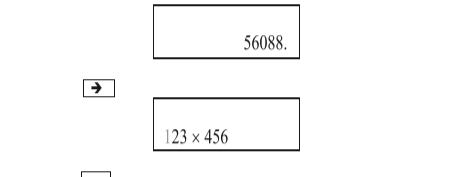
Table with 3 columns: Example, Operation, Display. Shows DMS to decimal and vice versa conversions.

Replay function

This function stores formulas that have been executed. After execution is complete, pressing either the [F1] or [F2] key will display the formula executed.

Pressing [F2] will display the formula from the beginning, with the cursor located under the first character. Pressing [F1] will display the formula from the end, with the cursor located at the space following the last character. After this, using the [←] and [→] to move the cursor, the formula can be checked and numeric values or commands can be changed for subsequent execution.

Example 4.12 x 3.58 ÷ 6. =



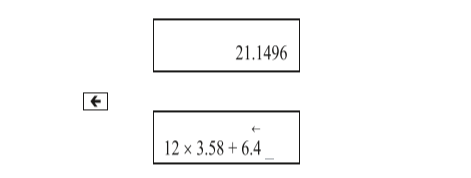
The replay function is not cleared even when [M+] is pressed or when power is turned OFF, so contents can be recalled even after [M+] is pressed.

Replay function is cleared when mode or operation is switched.

Error position display function

When an ERROR message appears during operation execution, the error can be cleared by pressing the [C] key, and the values or formula can be re-entered from the beginning. However, by pressing the [C] or [F1] key, the ERROR message is cancelled and the cursor moves to the point where the error was generated.

Example 14 ÷ 0 × 2.3 is input by mistake



Binary, octal, decimal, hexadecimal conversions

Binary, octal, decimal, hexadecimal calculations, conversions and logical operations are performed in BASE-N mode (press [MODE] [2] [1] [1]).

The number system (2, 8, 10, 16) is set by respectively pressing [BIN], [OCT], [DEC], [HEX]. A corresponding symbol "B", "O", "D", or "H" appears on the display.

Number systems are specified for specific values by pressing [SHIFT] then the numbers system designator (b, o, d, h), immediately followed by the value.

General function calculation cannot be performed in the BASE-N mode.

Only integers can be handled in the BASE-N mode. If a calculation produces a result that includes a decimal value, the decimal portion is cut off.

If values not valid for the particular number system are used, attach the corresponding designator (b, o, d, h), or an error message will appear.

Table with 2 columns: Number system, Valid values. Lists valid values for Binary, Octal, Decimal, and Hexadecimal systems.

Negative numbers in binary, octal, hexadecimal are expressed as two's complements.

Number of digits displayed in each number system

Table with 2 columns: Number system, Number of digits displayed. Shows digit limits for each system.

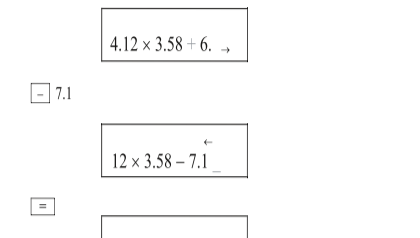
Calculation range (in BASE-N mode) Binary Positive: 011111111 2 x 2 0 Negative: 111111111 2 x 100000000

Octal Positive: 37777777 2 x 2 0 Negative: 77777777 2 x 400000000

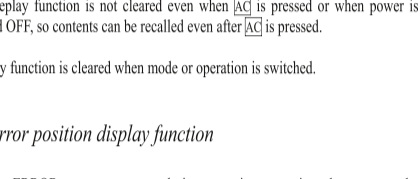
Decimal Positive: 2147483647 2 x 2 0 Negative: -2147483648

Hexadecimal Positive: 7FFFFFFF 2 x 2 0 Negative: FFFFFFFF 2 x 8 00000000

Correct the input by pressing [C] [M+] [M]



Correct the input by pressing [C] [M+] [M]



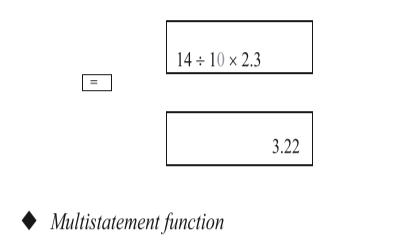
"Disp" appears on the display when "E" is used.

Even if "E" is not input at the end of a formula, the final result will be displayed.

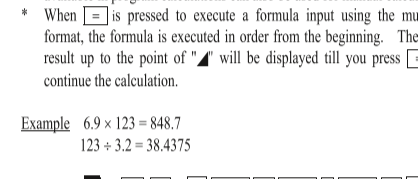
Consecutive calculations containing multistatements cannot be performed.

Calculations can be performed while an intermediate result is displayed during execution interrupted by "E".

Correct the input by pressing [C] [M+] [M]



Correct the input by pressing [C] [M+] [M]



"Disp" appears on the display when "E" is used.

Even if "E" is not input at the end of a formula, the final result will be displayed.

Consecutive calculations containing multistatements cannot be performed.

Calculations can be performed while an intermediate result is displayed during execution interrupted by "E".

Basic arithmetic operations using binary, octal, decimal, hexadecimal values

Table with 3 columns: Example, Operation, Display. Shows basic arithmetic operations in different number systems.

Conversion using number system mode key

Calculation results can be converted to any specified number system by using the corresponding number system mode key.

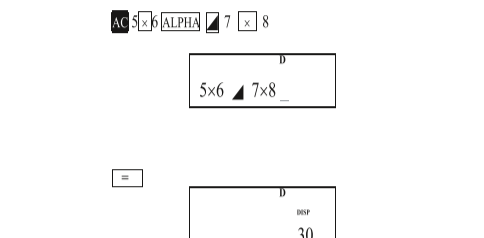
Table with 3 columns: Example, Operation, Display. Shows conversion of calculation results between number systems.

Conversion using number system specification key

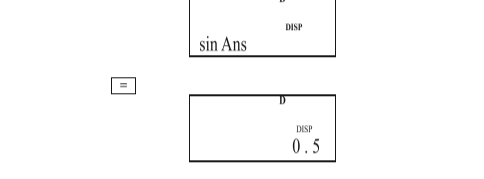
Value from a different number system input when a specific number system mode is being used.

Table with 3 columns: Example, Operation, Display. Shows conversion using specification keys.

Example 5.6 ÷ 7 x 8



When interrupt operation is completed, press [=] once again to execute.



When interrupt operation is completed, press [=] once again to execute.

"Disp" appears on the display when "E" is used.

Even if "E" is not input at the end of a formula, the final result will be displayed.

Consecutive calculations containing multistatements cannot be performed.

Scientific function

Trigonometric functions and inverse trigonometric functions

- Be sure to set the unit of angular measurement before performing trigonometric function and inverse trigonometric function calculations.
The unit of angular measurement (degree, radian, grad) is selected in sub-menu.
Once a unit of angular measurement is set, it remains in effect until a

Negative expressions

Table with 3 columns: Example, Operation, Display. Shows negative expressions in different number systems.

Logical operations

Logical operations are performed through logical products (and), logical sum (or), negative (Not), exclusive logic sum (xor), and operation of exclusive logical sum (xor).

Statistical calculations

This unit can be used to make statistical calculations including standard deviation in the SD mode, and regression calculation in the REG mode.

Standard deviation

In the SD mode, calculations including 2 types of standard deviation formulas, mean, number of data, sum of data, and sum of square can be performed.

Data input

- Press [MODE] [2] [1] [1] to specify SD mode.
Press [MODE] [2] [1] [1] to clear the statistical memories.
Input data, pressing [DATA] (F1) each time a new piece of data is entered.

Example Date: 10, 20, 20 Key operation: 10 [DATA] 20 [DATA] 30 [DATA]

new unit is set. Settings are not cleared when power is switched OFF. This operation is invalid in the BASE-N mode. When in the BASE-N mode, go back to COMP mode by selecting "COMP" in the main menu.

Table with 3 columns: Example, Operation, Display. Shows various statistical and trigonometric calculations.

Logarithmic and exponential functions

The following operation is invalid in the BASE-N mode. When in the BASE-N mode, carry out calculation after selecting "COMP" mode in main menu.

Table with 3 columns: Example, Operation, Display. Shows logarithmic and exponential function calculations.

Statistical calculations

This unit can be used to make statistical calculations including standard deviation in the SD mode, and regression calculation in the REG mode.

Table with 3 columns: Example, Operation, Display. Shows various statistical calculations.

Standard deviation

In the SD mode, calculations including 2 types of standard deviation formulas, mean, number of data, sum of data, and sum of square can be performed.

Data input

- Press [MODE] [2] [1] [1] to specify SD mode.
Press [MODE] [2] [1] [1] to clear the statistical memories.
Input data, pressing [DATA] (F1) each time a new piece of data is entered.

Example Date: 10, 20, 20 Key operation: 10 [DATA] 20 [DATA] 30 [DATA]