WriteView

EL-W506T EL-W516T MODEL EL-W516XG

OPERATION MANUAL

23CSC (TINSEA150EH01)

INTRODUCTION

About the calculation examples (including some formulas and tables), refer to the calculation examples sheet

After reading this manual, store it in a convenient location for future reference. Note: Some of the models described in this manual may not be

available in some countries.

Operational Notes

- Do not carry the calculator around in your back pocket, as it may break when you sit down. The display is made of glass and is particularly fragile.

 Keep the calculator away from extreme heat such as on a car
- dashboard or near a heater, and avoid exposing it to excessively humid or dusty environments.
- Since this product is not waterproof, do not use it or store it where fluids, for example water, can splash onto it. Raindrops, water spray, juice, coffee, steam, perspiration, etc. will also cause malfunction. Clean with a soft, dry cloth. Do not use solvents or a wet cloth. Avoid
- using a rough cloth or anything else that may cause scratches Do not drop it or apply excessive force.
- Never dispose of batteries in a fire.
- Keep batteries out of the reach of children.
 For the sake of your health, try not to use this product for long periods of time. If you need to use the product for an extended period, be sure to allow your eyes, hands, arms, and body adequate rest periods (about 10–15 minutes every hour). If you experience any pain or fatigue while using this product, discontinue use immediately. If the discomfort continues, please consult a doctor.
- This product, including accessories, may change due to upgrading without prior notice.
 - NOTICE -SHARP strongly recommends that separate permanent written
- records be kept of all important data. Data may be lost or altered in virtually any electronic memory product under certain circumstances. Therefore, SHARP assumes no responsibility for data lost or otherwise rendered unusable whether as a result of improper use, repairs, defects, battery replacement, use after the specified battery life has expired, or any other cause. SHARP will not be liable nor responsible for any incidental or
- consequential economic or property damage caused by misuse and/or malfunctions of this product and its peripherals, unless such liability is acknowledged by law. Press the RESET switch (on the back), with the tip of a ball-point.
- pen or similar object, only in the following cases. Do not use an object with a breakable or sharp tip. Note that pressing the RESET switch erases all data stored in memory. When using for the first time
 After replacing the battery
 To clear all memory contents
 When an abnormal condition occurs and all keys are inoperative

- If service should be required on this calculator, have the calculator serviced in the region (country) where you purchased it.

Hard Case







Only the symbols required for the usage currently being explained are shown in the display and calculation examples. Indicates that some contents are hidden in the directions

Appears when 2ndF is pressed, indicating that the functions shown in the same color as and are enabled. Indicates that the has been pressed and the hyperbolic functions are enabled. If and are high is pressed, the symbols HYP 2ndF HYP appear, indicating that inverse hyperbolic

Appears when ALPHA is pressed, indicating that the functions shown in the same color as (ALPHA) are enabled. Appears when STO or RCL is pressed, and entry (recall) of memory contents can be performed. FIX/SCI/ENG/N1/N2: Indicates the notation used to display a value

and changes by SET UP menu. **N1** is displayed on-screen as "NORM1", and **N2** as "NORM2".

Performing integral calculations

functions are enabled.

Press (ALPHA) (fdx).

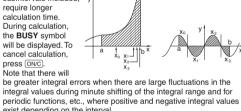
Specify the following parameters: range of integral (initial value (a), end value (b)), function with variable x, and number of subintervals (n). You do not need to specify the number of subintervals. If the number of subintervals is not specified, the default value of n = 100 will be used. Press =

Notes: Parameters are entered in the following way: WriteView editor:

Line editor: function[, subintervals] $dx = \int (function, a, b[, subintervals])$

Integral calculations, depending on the

integrands and subintervals included, y require longer calculation time During calculation the BUSY symbol will be displayed. To cancel calculation, press ON/C).
Note that there will



integral values during minute shifting of the integral range and for periodic functions, etc., where positive and negative integral values exist depending on the interval. For the former case, divide integral intervals as small as possible.

For the latter case, separate the positive and negative values.
Following these tips will allow you to obtain results from calculations with greater accuracy and will also shorten the calculation time

Performing differential calculations Press (ALPHA) (d/dx). Specify the following parameters: function with variable x, value of

x, and minute interval (dx).

You do not need to specify the minute interval. If the minute interval is not specified, it will automatically be set to 10^{-5} (while x=0), or $|x| \times 10^{-5}$ (while $x \neq 0$).

WriteView editor: d(function) $|x = value \ of \ x[, minute interval]$

Line editor d/dx (function, value of x[, minute interval]) Σ Function The \sum function returns the cumulative sum of a given expression from

an initial value to an end value in NORMAL mode Performing \sum calculations

Press (ALPHA) Σ . 2. Specify the following parameters: initial value, end value, function

with variable x, and increment (n). You do not need to specify the increment. If the increment is not specified, the default value of n = 1 will be used. Parameters are entered in the following way:

 $\Sigma^{(function[, increment])}$

WriteView editor:

 \sum (function, initial value, end value[, increment])

∏ Function The Π function returns the product of a given expression from an initial value to an end value in NORMAL mode

Performing Π calculations

Press (ALPHA) []. Specify the following parameters: initial value, end value, function with variable X, and increment (n).

You do not need to specify the increment. If the increment is not specified, the default value of n=1 will be used.

Press =

Parameters are entered in the following way: WriteView editor Π (function[, increment])

Line editor: \prod (function, initial value, end value[, increment])

Random Function The random function has four settings. (This function cannot be

selected while using the N-base function.) To generate further random numbers in succession, press $\underline{\texttt{ENTER}}.$ Press $\underline{\texttt{ONC}}$ to exit. Random numbers A pseudo-random number, with three significant digits from 0 up to 0.999, can be generated by pressing <code>2ndF</code> <code>@NDDM</code> <code>0</code> <code>ENTER</code>.

0.999, can be generated by pressing (2ndF) [RNDOM] 0 [ENTER]. Note: In the WriteView editor, if the result is not 0 it can be shown as

a fraction or decimal using CHANGE. Random dice To simulate a die-rolling, a random integer between 1 and 6 can be

generated by pressing (2ndF) (RANDOM) 1 (ENTER).

To simulate a coin flip, 0 (heads) or 1 (tails) can be randomly generated by pressing 2ndF RANDOM 2 ENTER

Random integer

You can specify a range for the random integer with "R.Int(" only.

R.Int(minimum value, maximum value)
For example, if you enter (2ndF) (2ndF) (2ndF) (2ndF) (2ndF), a random integer from 1 to 99 will be generated.

DEG/RAD/GRAD: Indicates angular units.
BUSY: Appears during the execution of a calculation. W-VIEW: Indicates that the WriteView editor is selected

Indicates that a numerical value is stored in the independent memory (M). $r\theta/xy$: Indicates the mode of expression for results in COMPLEX

BEFORE USING THE CALCULATOR

Press $\boxed{\mathtt{ONC}}$ to turn the calculator on. The data that was on-screen when the power was turned off will appear on the display. Press 2ndF OFF to turn the calculator off.

Key Notations Used in this Manual

To specify e^x : 2ndF e^x

In To specify In: To specify E: ALPHA E · Functions that are printed in gray adjacent to the keys are effective in

- specific modes.

 The multiplication operator "x" is differentiated from the letter "X" in this manual as follows:
- To specify the multiplication operator: X
 To specify the letter "X": ALPHA X
- In certain calculation examples, where you see the LINE symbol, the key operations and calculation results are shown as they would appear
- in the Line editor. In each example, press ONC to clear the display first, Unless otherwise specified, calculation examples are performed in the WriteView editor ((2ndF SETUP 2 0 0 0) with the default display settings ((2ndF)
- Clearing the Entry and Memories

D1-D3 ANS STAT*1 matA-D

ON/C	0	X	X	X	Х	X
2ndF CA	0	X	X	0	0	0
Mode selection (MODE)	0	X	X	X	X*2	0
2ndF M-CLR 0	0	X	X	X	X	X
2ndF M-CLR 1 0	0	0	0	0	0	0
2ndF M-CLR 2 0 *3	0	0	0	0	0	0
RESET switch*3	0	0	0	0	0	0
O: Clear X: Retain *1 Statistical data (entere	ed data)					

*2 Cleared when changing between sub-modes in STAT mode.
 *3 The RESET operation will erase all data stored in memory and restore the calculator's default settings. The username you stored using the

name display function will be cleared as well. Memory clear key

Press 2ndF M-CLR to display the menu.

To initialize the display settings, press _____. The parameters are set as Angular unit: DEG

Display notation: NORM1 N-base: DEC

Recurring decimal: OFF Mode Selection

NORMAL mode: MODE 0

Used to perform arithmetic operations and function calculations

STAT mode: MODE 1 Used to perform statistical operations.

TABLE mode: MODE 2

Used to illustrate the changes in values of one or two functions in table format

COMPLEX mode: MODE 3 Used to perform complex number calculations.

EQUATION mode: MODE 4 Used to solve equations MATRIX mode: MODE 5

VECTOR mode: MODE 6 Used to perform vector calculations.

Used to perform matrix calculations

DISTRIBUTION mode: MODE 7 Used to perform distribution calculations.

DRILL mode: (MODE) 8 Used to practice math and multiplication table drills

HOME Key Press (HOME) to return to NORMAL mode from other modes Note: Equations and values currently being entered will disappear, in the

same way as when the mode is changed. SET UP Menu

Press (2ndF) (SET UP) to display the SET UP menu. Press Once to exist the SET UP menu.

Note: You can press BS to return to the previously displayed parent menu.

Determination of the angular unit (degrees, radians, and grades)
DEG (°): 2ndF (SETUP 0 0 (default) DEG (°): 2ndF SET UP 0

RAD (rad): 2ndF SET UP 0 GRAD (g): 2ndF (SET UP) 0 2

Selecting the display notation and decimal places Two settings of Floating point (NORM1 and NORM2), Fixed decimal point

- (FIX), Scientific notation (SCI), and Engineering notation (ENG).

 When 2ndF SETUP 1 0 (FIX) or 2ndF SETUP 1 2 (ENG) is pressed, the number of decimal places (TAB) can be set to any value between 0 and 9.
 - When [arth 1 1 1 1 (SCI) is pressed, the number of significant digits can be set to any value between 0 and 9. Entering 0 will set a 10-digit display.

Setting the floating point number system in scientific notation NORM1 (the default) and NORM2. A number is automatically displayed in cientific notation outside a preset range: NORM1 ([2ndF]sstuP 1 3): $0.000000001 \le |x| \le 9,999,999,999$ NORM2 ([2ndF]sstuP 1 4): $0.01 \le |x| \le 9,999,999,999$

Selecting the editor and setting the answer display This calculator has the following two editors in NORMAL mode WriteView and Line.

Set the display format for numerical calculation results in WriteView editor

The WriteView editor The Line editor

- When "EXACT(a/b, $\sqrt{\ }$, π)" is set, results will appear in fraction format or

- irrational number format (including π and $\sqrt{\ })$ when display is possible. When "APPROX." is set, results will be decimal display or fraction display, and will be not shown in irrational number format (including π

- and $\sqrt{\ }$. Press $\frac{1}{2}$ to change the calculation results to another format that can be displayed.

Adjusting the display contrast Press 2ndF SET UP 3 , then + or - to adjust the contrast. Press

Insert and overwrite entry methods

When using the Line editor, you can change the entry method from "INSERT" (the default) to "OVERWRITE".

After you switch to the overwrite method (by pressing (2ndF) (SET UP) 4 1) the triangular cursor will change to a rectangular one, and the number of function underneath it will be overwritten as you make entries. Setting the recurring decimal

In NORMAL mode, calculation results can be shown in a recurring decimal format Recurring decimal is OFF: 2ndF SETUP 5 0 (default)
Recurring decimal is ON: 2ndF SETUP 5 1

- In the WriteView editor, the recurring part is indicated by "-". In the Line editor, the recurring part is indicated in parentheses.

 If over 10 digits, including the recurring part, the result cannot be displayed in recurring decimal format.
- Setting of the decimal point You can show the decimal point in the calculation result as either a dot

During entry, the decimal point is only shown as a dot.

Name display function You can save a username in this calculator. When you turn the power off, the saved username is displayed momentarily. Up to 32 characters may be saved, split over two lines.

- Entering and editing the username:

 1. Press 2ndF SETUP 7. The editing screen appears with a flashing cursor. Use ___ and ___ to scroll through the available characters.

 Pressing ___ or __ moves the cursor to the left or right.

 To modify a character, use ___ or ___ to move the cursor to the
- character, then select another character using a or Repeat steps 2 and 3 above to continue entering characters 5. Press = to save and quit.

Note: Press 2ndF CA in the editing screen to clear all the ENTERING, DISPLAYING, AND EDITING THE EQUATION

The WriteView Editor

Entry and display In the WriteView editor, you can enter and display fractions or certain

functions as you would write them. The WriteView editor can be used in NORMAL mode

Displaying calculation results (when EXACT is selected) When possible, calculation results will be displayed using fractions, $\sqrt{\ }$, and $\pi.$ When you press $\frac{1}{2}$, the display will cycle through the following

display styles: • Mixed fractions (with or without π) o improper fractions (with or without π) \rightarrow decimal numbers Proper fractions (with or without π) \rightarrow decimal numbers

- Irrational numbers (square roots, fractions made using square roots) $\boldsymbol{\rightarrow}$

Notes: • In the following cases, calculation results may be displayed using $\sqrt{\ }$: Arithmetic operations and memory calculations
 Trigonometric calculations

 In trigonometric calculations, when entering values such as those in the Entry value multiples of 15 table to the right, results may be shown using $\sqrt{\ }$. Improper/proper fractions will be RAD multiples of $\frac{1}{12}\pi$ GRAD multiples of $\frac{50}{3}$ converted to and displayed as decimal numbers if the number of digits used in their expression is greater than nine. In the case of mixed fractions, the

maximum number of displayable digits (including integers) is eight.

If the number of digits in the denominator of a fractional result that uses π is greater than three, the result is converted to and displayed as a

The Line Editor Entry and display

Various functions

What is the GCD of ON/C 24 [2ndF] [GCD] 36

What is the LCM of 15 and 9? ON/C) 15 2ndF (LCM) **9** 45.

all digits can be displayed in "NORM1" format, normal division is

In NORMAL mode, the calculation result can be shown as a product of prime numbers • A positive integer greater than 2 and no more than 10 digits can be

Simulation Calculation (ALGB)

specify the value for the variable in the equation.
Usable variables: A–F, M, X and Y Simulation calculations can only be executed in NORMAL mode.

This function uses Newton's method to obtain an approximation. Depending on the function (e.g. periodic) or start value, an error may occur (ERROR 02) due to there being no convergence to the

Enter a dx value (minute interval)

or line fraction notation if possible

Editing the Equation

form (if possible).

or 2ndF to jump the cursor to the beginning or the end of the equation Back space and delete key

In the Line editor, you can enter and display equations line by line.

Up to three lines of text may be viewed on the screen at one time.

· In the Line editor, calculation results are displayed in decimal form

Use witch the display format to fractional form or decimal

Just after obtaining an answer, pressing (brings you to the end

of the equation and pressing ▶ brings you to the beginning. Press ◀, ▶, ♠, or ▼ to move the cursor. Press 2ndF ◀

To delete a number or function, move the cursor to the right of it, then press \fbox{BS} . You can also delete a number or function that the cursor is

directly over by pressing (2ndF) (DEL). In a multi-level menu, you can press BS to back to the previous menu level.

MATH Menu Other functions may be available on this calculator besides those printed on the key pad. These functions are accessed using the MATH menu. The MATH menu has different contents for each mode. Press MATH to display the MATH menu.

Note: The MATH key cannot be used in the simulation calculations and solver functions of NORMAL mode, or in the item and value input screens of other modes.

Multi-line Playback Function This calculator is equipped with a function to recall previous equations and answers in NORMAL or COMPLEX modes. Pressing A will display the previous equation. The number of characters that can be

saved is limited. When the memory is full, stored equations will be deleted to make room, starting with the oldest.

To edit an equation after recalling it, press

or The multi-line memory will be cleared by the following operations: | CadF | CA | mode change, RESET, N-base conversion, angular unit conversion, editor change (|2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | , |2ndF | SETUP | 2 | 0 | 0 | 0

Priority Levels in Calculation

SCIENTIFIC CALCULATIONS

This calculator performs operations according to the following priority: ① Fractions (1 r 4, etc.) ② ∠. Engineering prefixes ③ Functions preceded by their argument (X^{-1} , X^2 , n!,(%), etc.) ④ y^x , x^x ⑤ Implied multiplication of a memory value (2Y, etc.) ⑥ y^x , x^x ⑤ Implied multiplication of a function (2sin 30, A_4^1 , etc.) ⑥ nCr, nPr, GCD, LCM, x^x or x^x

ending instructions If parentheses are used, parenthesized calculations have precedence over any other calculations.

Arithmetic Operations

Constant Calculations In constant calculations, the addend becomes a constant.

You can use (ALPHA) (ENG) or (ALPHA) (ENG>) to convert the calculation result to engineering notation. Press (ALPHA) (<ENG) to decrease the exponent. Press (ALPHA) (ENG>) to

increase the exponent.

The settings (FSE) in the SET UP menu do not change.

Refer to the calculation examples for each function

Functions

• T: to separate integers, numerators, and denominators. (a/b), (2ndF) (ab/c)) When using (2ndF) (log_x) or (2ndF) (abs) in the Line editor, values are

Integral and differential calculations can be performed in NORMAL Since integral and differential calculations are performed based on the following equations, correct results may not

 $+2\{f(a+2h)+f(a+4h)+\cdots+f(a+(N-2)h)\}+f(b)\}\Big|_{N=2n}$ Differential calculation: $f'(x) = \frac{f(x + \frac{dx}{2}) - f(x - \frac{dx}{2})}{f(x - \frac{dx}{2})}$

Angular Unit Conversions Each time 2ndF DRG+ is pressed, the angular unit changes in sequence. Memory Calculations Temporary memories (A-F, X and Y)

place a variable in an equation, press ALPHA and a variable key. Independent memory (M) In addition to all the features of temporary memories, a value can be added to or subtracted from an existing memory value.

and a variable key to recall the value from

Press STO and a variable key to store a value in memory.

Press ON/C STO M to clear the independent memory (M)

Last answer memory (ANS)

Definable memories (D1-D3)

The calculation result obtained by pressing $\begin{tabular}{l} = \begin{tabular}{l} = \begin{tabular}{l} or any other calculation ending instruction is automatically stored in the last answer memory. When the calculation result is in matrix or vector form, the full matrix$ or vector is not stored into ANS memory. Only the value of the element covered by the cursor is stored. Notes: Calculation results from the functions indicated below are automatically

stored in the X or Y memories replacing any existing values. • $\rightarrow r\theta$, $\rightarrow xy$: X memory (r or X), Y memory $(\theta \text{ or } y)$ • Two x' values from a quadratic regression calculation in STAT mode:

X memory (1:), Y memory (2:) Use of \bigcirc RCL or \bigcirc RPM will recall the value stored in memory using up to A - F, X, Y memory cannot be used in COMPLEX mode.

want to store. Menu-related operations, such as 2ndF (SETUP), cannot be stored. Press (Nice) to return to the previous display.

To call a stored function or operation, press the corresponding memory key Calling a stored function will not work if the function that is called would be unusable in the current context.

Any functions or operations that are stored in a definable memory will

be replaced when you save a new one into that memory.

Functions cannot be saved in a definable memory from the simulation calculations and solver functions of NORMAL mode, or from the item

You can store functions or operations in definable memories (D1-D3).

To store a function or operation, press (\$\overline{10}\), followed by a definable memory key (\(\begin{pink} \text{D1}\), \(\beta \text{D2}\), or \(\beta \text{D3}\)), followed by the operation you

Press (ALPHA) (MEMORY) to display a list of the values saved in memory. The values are shown in a 9-character range Applicable memories: A, B, C, D, E, F, X, Y, M
• In COMPLEX mode, only M memory is displayed.

a fraction can be performed by pressing CHANGE

and value input screens of other modes.

Memory List

Chain Calculations

0

B

instructions or when the calculation result is in matrix/vector format Fraction Calculations Arithmetic operations and memory calculations can be performed using fractions. In NORMAL mode, conversion between a decimal number and

The previous calculation result can be used in the subsequent

calculation. However, it cannot be recalled after entering multiple

displayable digits (including integers) is eight. To convert a sexagesimal value to a fraction, first convert it by pressing Binary, Pental, Octal, Decimal, and Hexadecimal Operations (N-base)

Conversions can be performed between N-base numbers in NORMAL

· Improper/proper fractions will be converted to and displayed as decimal

numbers if the number of digits used in their expression is greater than nine. In the case of mixed fractions, the maximum number of

mode. The four basic arithmetic operations, calculations with parentheses, and memory calculations can also be performed, along with the logical operations AND, OR, NOT, NEG, XOR, and XNOR on binary, pental, octal, and hexadecimal numbers. Note: The hexadecimal numbers A–F are entered by pressing y^x ,

cannot be entered. When a decimal number having a fractional part is converted into a binary, pental, octal, or hexadecimal number, the fractional part will be truncated. Likewise, when the result of a binary, pental, octal, or hexadecimal calculation includes a fractional part. the fractional part will be truncated. In the binary, pental, octal, and hexadecimal systems, negative numbers are displayed as a complement

You can convert between decimal and sexagesimal numbers, and from

sexagesimal numbers to seconds or minutes. In addition, the four basic

arithmetic operations and memory calculations can be performed using

the sexagesimal system. Notation for sexagesimal is as follows:

12°34'56.78" Degree — Second **Coordinate Conversions** Before performing a calculation, select the angular unit.

The results of coordinate conversions will be displayed as decimal

numbers even in the WriteView editor.

Polar coord. Rectangular coord.

Calculations using physical constants To recall a constant, press (ALPHA) (CONST), then select a physical constant

Ø

decimal number.

from the list. (Each item is labeled with a 2-digit number.)

To scroll up or down the list of constants, press () () or (). Enter the first digit of the 2-digit item number to jump to the page containing the number that begins with that digit.

automatically according to the display and decimal placement settings. Physical constants can be recalled in NORMAL (excluding N-base),

When you enter the second digit, the constant is displayed

Physical Constants and Metric Conversions

STAT, COMPLEX, MATRIX, VECTOR and EQUATION modes Note: Physical constants and metric conversions are based on the 2014 CODATA recommended values, or on the 2008 Edition of the "Guide for the Use of the International System of Units (SI)" released by NIST (National Institute of Standards and Technology). No. Constant No. Constant Stefan-Boltzmann constant 27

Speed of light in vacuum Newtonian constant of gravitation Standard acceleration of gravity Electron mass 28 Avogadro constant
Wolar volume of ideal gas
(273.15 K, 101.325 kPa)
Molar gas constant
Molar gas constant Proton mass 06 07 Neutron mass Faraday constant Von Klitzing constant
Electron charge to mass quotient
Quantum of circulation
Proton gyromagnetic ratio
Josephson constant Muon mass Atomic mass unit-kilogram relationship Elementary charge Planck constant Boltzmann constant Electron volt Magnetic constant
Electric constant
Classical electron radius Celsius Temperature Astronomical unit Fine-structure constant Bohr radius Planck constant over 2 pi Rvdberg constant Hartree energy Magnetic flux quantum Conductance quantum Magnetic flux quantum
Bohr magneton
Electron magnetic moment
Nuclear magneton
Proton magnetic moment
Neutron magnetic moment Inverse fine-structure constant Proton-electron mass ratio Molar mass constant Neutron Compton wavelength First radiation constant

Enter a value to be converted, then press ALPHA CONV, and select a metric conversion by entering its 2-digit number. The metric conversion list is used in the same manner as the list of

04 m

Metric conversions

Muon magnetic moment Compton wavelength Proton Compton wavelength

meter

physical constants. Unit conversions can be performed in NORMAL (excluding N-base) STAT, MATRIX, VECTOR, and EQUATION modes Remarks

Second radiation constant

Characteristic impedance of vacuum 52 Standard atmosphere

: milliliter

01 in 23 fl oz(US) : fluid ounce (US) 02 cm centimete 24 mL : milliliter 25 fl oz(UK) : fluid ounce (UK) 03 ft foot

26 mL

05	yd	: yard	27	cal _{th}	: calorie _{th}
06	m	: meter	28	J	: joule
07	mi	: mile	29	cal ₁₅	: calorie (15°C)
08	km	: kilometer	30	J	: joule
09	n mi	: nautical mile	31	cal _⊓	: calorie _{IT}
10	m	: meter	32	J	: joule
11	acre	: acre*1	33	hp	: horsepower (UK)
12	m ²	: square meter	34	W	: watt
13	oz	: ounce (avoirdupois)	35	ps	: horsepower (metric)
14	g	: gram	36	W	: watt
15	lb	: pound (avoirdupois)	37	(kgf/cm ²)	
16	kg	: kilogram	38	Pa	: pascal
17	°F	: degree Fahrenheit	39	atm	: atmosphere
18	°C	: degree Celsius	40	Pa	: pascal
19	gal (US)	: gallon (US)	41	(1 mmHg	= 1 Torr)
20	L	: liter	42	Pa	: pascal
21	gal (UK)	: gallon (UK)	43	(kgf·m)	
22	L	: liter	44	N⋅m	: newton meter
*1 ba	ised on U	S survey foot			
Calc	culation	ns Using Engin	eeri	ng Pref	ixes 🕢
Calculation can be executed in NORMAL mode (excluding N-base) using the following 9 types of prefixes.					

103 (Mega) 106 (micro) G T (Giga) 109 n p (nano) 10-9 1012 10-12 (Tera) (pico)

Unit

Prefix

(kilo)

Modify Function

decimal form first

Decimal calculation results are internally obtained in scientific notation, with up to 14 digits in the mantissa. However, since calculation results are displayed in the form designated by the display notation and the number of decimal places indicated, the internal calculation result may differ from that shown in the display. By using the modify function ((2ndF) (MDF)), the internal value is converted to match that of the display, so that the displayed value can be used without change in subsequent operations.

When using the WriteView editor, if the calculation result is displayed

Prefix

(milli)

(femto)

Unit

10-3

10-15

The modify function can be used in NORMAL, STAT, MATRIX, or VECTOR modes.

using fractions or irrational numbers, press CHAGE to convert it to

"Q" indicates "Quotient", and "R" indicates "Remainder" Pressing @ndF) [int+] cannot be followed by pressing a key for another operation such as (+, -, x, +), otherwise an error will result.
 The quotient and remainder are shown in "NORM1" format. If not

specified.

factored into prime • A number that cannot be factored into a prime number with 3 digits or shorter is shown in parentheses.

If you have to find values consecutively using the same expression, such as plotting a curve line for $2\sqrt{2}+1$, or finding the variable value for 2X + 2Y = 14, once you enter the expression, all you have to do is to

Input an expression with at least one variable.

The solver function finds the value for X that reduces the entered

no solution can be found (ERROR 02).

solution for the equation. The value obtained by this function may include a margin of error. Change the "Start" value (e.g. to a negative value) or dx value (e.g. to a smaller value) if:

The variable entry screen will appear. Enter a value, then press ENTER) to confirm. After completing the calculation, press 2ndF (ALGB) to perform calculations using the same equation.

Subtraction and division are performed in the same manner. For multiplication, the multiplicand becomes a constant. In constant calculations, constants will be displayed as K Constant calculations can be performed in NORMAL or STAT modes

In the Line editor, the following symbols are used:
 ...**.: to indicate an expression's power. (_yx*_, _2ndF__ex*_, _2ndF__

be obtained, in certain rare cases, when performing special calculations that contain discontinuous points. Integral calculation (Simpson's rule): $S = \frac{1}{3} h\{f(a) + 4\{f(a+h) + f(a+3h) + \dots + f(a+(N-1)h)\} \left| h = \frac{b-a}{N} \right|$

LCM (the Least Common Multiple)

Returns only the integer part of a decimal number.

Returns the highest integer value that does not exceed the value

examples (No. 9). You can use 2ndF) % to perform premium discount, and other calculations. Prime Factorization

 The calculation result of prime factorization is displayed according to the editor setting (W-VIEW or LINE). The calculation result of prime factorization may extend off the

• Calculation ending instructions other than = cannot be used. Performing calculations

int÷

Press MODE 0. Input an expression with an x variable.

logn (base, value) abs value Integral/Differential Functions

Returns only the fraction part of a decimal number

percentage.

Note: For calculation using 2ndF %, refer to the calculation

· to improve arithmetic precision.

entered in the following way:

12.

When specified immediately after a value, the value is treated as a

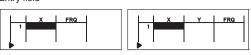
Solver Function expression to zero.

The statistical data input screen appears After entering statistical data from the input screen, press (DATA) or (ON/C) and close the input table. You can then check statistical values from the

STAT menu ([ALPHA] (STAT)) and specify statistical variables.

Data Entry and Correction

Data entry Entry field



Two-variable data table

Single-variable data table

- After entering the data, press ENTER. The input is finalized and the cursor moves to the next line. If data was not entered in an x or y, 0 is entered, 1 is entered in FRQ (frequency), and the cursor moves to the
- You can use (a) to enter X and FRQ (or X. Y. and FRQ) at once In the input table, up to 6 digits are displayed for each value, including the sign and decimal point. Any values that exceed 6 digits
- in length are displayed in exponent notation. Up to 100 data items can be entered. With single-variable data, a data item with an assigned frequency of one is counted as one data item, while an item with an assigned frequency of 2 or higher is stored as a set of two data items. With two-variable data, a set of data items with an assigned frequency of one is counted as two data
- items, while a set of items with an assigned frequency of 2 or higher is stored as a set of three data items To execute statistical calculation, press DATA or ON/C and close the

input table. Data correction

Use \P , \blacksquare , \blacksquare , or \P to move the cursor and select the desired data. Press <code>2ndF</code> \blacksquare or <code>2ndF</code> \P to jump the cursor to the beginning or end of the data.

Data correction

Move the cursor to the data that you want to correct, enter the numeric value, and press [ENTER].

Data insertion

To insert a line in front of the cursor position, press (ALPHA) (INS-D). The initial values entered in the inserted data are 0 in x and y, and 1 in FRQ.

Data deletion

o delete the entire line where cursor is positioned, press 2ndF DEL. Notes . In STAT mode, all statistical data will be erased if the submode is

changed or <a>(2ndF) <a>(CA) is pressed. In STAT mode, press DATA to display the input table.

Statistical Calculations and Variables The following statistics can be obtained for each statistical calculation

(refer to the table below)

Single-variable statistical calculation Statistics of 1, 3 and the value of the normal probability function.

Linear regression calculation

Statistics of 1, 2 and 4. In addition, the estimate of y for a given x(estimate y') and the estimate of x for a given y (estimate x')

Quadratic regression calculation

Statistics of ①, ② and ④. And coefficients $a,\,b,\,c$ in the quadratic regression formula ($y = a + bx + cx^2$). (For quadratic regression calculations, no correlation coefficient (r) can be obtained.) When there are two x' values, each value will be displayed with "1:" or "2:", and stored separately in the X and Y memories

You can also specify the 1st value (x1') and the 2nd value (x2') separately Euler exponential regression, logarithmic regression, power regression, inverse regression,

and general exponential regression calculations Statistics of \bigcirc , \bigcirc and \bigcirc . In addition, the estimate of \mathcal{V} for a given

Number of samples

DISTRIBUTION FUNCTIONS

Normal pdf

and standard deviation (a).

Binomial Distribution

success (p) on each trial.

Poisson Distribution

with the specified mean (μ) .

60 with a standard deviation

Calculate the probability of

range x = 54 to 66 in the

Find the value of x for the

range up to x = 7 (success

of x = 4, for the mean of a

Poisson distribution of 3.6.

Find the probability within

number) in the above

sample.

probability of 0.8 in the

above sample

Find the nominal distribution MODE 7 0

probability density for x = 65 when the normal distribution \bigcirc 65 ENTER 60 x: of the test score averages is ENTER 6 μ :

(ENTER)

(ENTER)

ENTER 6

(ENTER)

(ENTER)

ENTER

(ENTER)

(ENTER)

MODE 7 0

1 54 ENTER 66

ENTER 60 ENTER 6

MODE 7 0

2 0.8 ENTER 60 a:

Binomial pdf

Binomial cdf

Poisson pdf

fied mean (µ)

Poisson cdf

x and the estimate of x for a given y. (Since the calculator converts each formula into a linear regression formula before actual calculation takes place, it obtains all statistics, except coefficients a and b, from converted data rather than entered data.)

	\overline{x}	Mean of samples (x data)
	SX	Sample standard deviation (x data)
	S ² X	Sample variance (x data)
	σx	Population standard deviation (x data)
1	σ ² <i>x</i>	Population variance (χ data)
	Σx	Sum of samples (x data)
	Σx^2	Sum of squares of samples (χ data)
	xmin	Minimum value of samples (x data)
	xmax	Maximum value of samples (χ data)

The calculator has distribution features to find statistical calculations.

Calculates the probability density of the specified value x for the nor-

mal distribution with the specified mean (μ) and standard deviation (σ).

Calculates the probability of a specified intervals x1-x2 for the normal

distribution with the specified mean (μ) and standard deviation (σ).

Calculates the inverse cumulative normal distribution function for a

Calculates a probability density at x for the discrete binomial

distribution with the specified trial number (n) and probability of

Calculates a cumulative probability at x for the discrete binomial

distribution with the specified trial number (n) and probability of success (p) on each trial.

Calculates a cumulative probability at x for the Poisson distribution

a probability at x for the Poisson distribution with the speci-

Normal pdf

σ:6_

ANS =

 x_1 :

x2:

 μ :

 $\sigma:6-$

ANS =

 μ :

 $\sigma:6$

ANS =

65. 60.

0.046985312

0.682689492

Inverse Normal

54.

66.

60.

0.8

60.

65.0497274

given area (a) under the normal distribution curve specified by mean (μ)

POISSON), and then select the desired distribution function

Note: Calculation results are stored in ANS memory.

, and select the type (NORMAL, BINOMINAL,

Mean of samples (v data) Sample standard deviation (y data) sySample variance (y data) s2y σy Population standard deviation (y data) Population variance (v data) $\sigma^2 y$ Sum of samples (y data) Σy Sum of squares of samples (y data) 2 Σv^2 Sum of products of samples (x, y) Σxy Sum of products of samples (χ^2, y) $\sum x^2y$ Σx^3 Sum of 3rd powers of samples (χ data Σx^4 Sum of 4th powers of samples (x data) Minimum value of samples (y data) ymin Maximum value of samples (v data) ymax First quartile of sample (x data) Med Median of sample (χ data) 3 Q_3 Third quartile of sample (x data) Correlation coefficient (Except Quadratic regression) а Coefficient of regression equation Coefficient of regression equation b4 Coefficient of quadratic regression equation R^2 Coefficient of determination (Quadratic regression) Coefficient of determination (Except Quadratic regression

After closing the input table, you can view statistical values, view regression coefficient values, and specify statistical variables from the STAT menu (ALPHA STAT)

ALPHA STAT 0: Display statistical values
(ALPHA) (STAT) 1: Display regression coefficient values
ALPHA STAT 2: Specify statistical value variables
(ALPHA) (STAT) 3 : Specify statistical value (Σ related) variables
(ALPHA) (STAT) 4: Specify max/min value variables
(ALPHA) (STAT) 5: Specify regression coefficient variables

List display of regression coefficient values and specification of regression coefficient variables do not appear in single-variable statistical calculation.

- Estimated values x' and y' are specified with the keys (2ndF) x', 2ndFy). If there are two x' values, you can specify x1' and x2' from the STAT
- In the statistical value and regression coefficient value lists, you cannot return to the menu by pressing BS.

Statistical Calculation Formulas

- No solution exists in the quadratic regression calculation

Normal Probability Calculations

distribution variable. P(t), Q(t), and R(t) will always take positive values, even when t < 0,

- because these functions follow the same principle used when solving Values for P(t), Q(t), and R(t) are given to six decimal places.
- The standardization conversion formula is as follows.

TABLE MODE

You can see the changes in values of one or two functions using TABLE

Setting a table

DRILL MODE

Math Drill: MODE 8 0

Multiplication Table (X Table): MODE 8 1

1. Press (MODE) 2 to enter TABLE mode.

2. Enter a function (Function1), and press (ENTER).
3. If needed, enter the 2nd function (Function2) and press (ENTER). 4. Enter a starting value (X_Start:), and press ENTER

- 6. Press ENTER when you finish entering a step value. A table with a variable X and the corresponding values (ANS column) appears displaying 3 lines below the starting value f you entered two functions, the ANS1 and ANS2 columns appear.
- The values are displayed up to 7 digits, including signs and a decimal Press or to move the cursor to ANS column (ANS1 and ANS2
- columns if you entered two functions) or X column. Full digits of the value on the cursor are displayed on the bottom right.
- In a function, only "X" can be used as a variable, and other variables are all regarded as numbers (stored into the variables). • Irrational numbers such as $\sqrt{\ }$ and π can also be entered into a starting
- value or a step value. You cannot enter 0 or a negative number as a step value
- You can use WriteView editor when inputting a function . The following features are not used in TABLE mode: coordinate conversions, conversion between decimal and sexagesimal numbers
- It may take time to make a table, or "-----" may be displayed, depending on the function entered or conditions specified for the variable X
- · Please note that when making a table, the values for variable X are
- Press 2ndF CA or mode selection to return to the initial screen of the mode, and return to the default values for the starting value and step value

COMPLEX NUMBER CALCULATIONS

(The XY symbol appears)

x-coordinate + y-coordinate i
or x-coordinate + i y-coordinate

2 (2ndF) $\rightarrow r\theta$: Polar coordinate system (The $\nearrow \theta$ symbol appears.)

 $r(2ndF) \subseteq \theta$ $r: absolute value \qquad \theta: argument$

Complex Number Entry

1 Rectangular coordinates

(ANS) will be cleared.

EQUATION SOLVERS

1 2-VLE: MODE 4 0

② 3-VLE: MODE 4 1

 $a_1x + b_1y = c_1$

 $a_2x + b_2y = c_2$

 $a_1x + b_1y + c_1z = d_1$

 $a_2 x + b_2 y + c_2 z = d_2$

If the determinant D = 0, an error occurs.

Solving simultaneous linear equations

Enter the value for each coefficient (\mathcal{Q}_1 , etc.)

Press MODE 4 0 or MODE 4

Quadratic and Cubic Equations

Solving quadratic and cubic equations

those for simultaneous linear equations.

To clear all the coefficients, press 2ndF CA.

You can store and calculate up to four matrices.

Entering and Storing Matrices

triz:2X2

and pressing ENTER).

through the matrix.

newly-created matrix in

maximum input buffer

Calculation Ranges

Matrix entry screen (example)

MATRIX CALCULATIONS

value displayed

 $a_3x + b_3y + c_3z = d_3$

Simultaneous Linear Equations

2 Polar coordinates

To carry out addition, subtraction, multiplication, and division using complex numbers, press $\boxed{\text{MODE}} \boxed{3}$ to select COMPLEX mode.

Results of complex number calculations are expressed using two

On selecting another mode, the imaginary part of any complex number

y-value equal to zero, or expressed in polar coordinates with the angle equal to zero, is treated as a real number.

argument of a complex number (arg(), the real part of a complex number (real(), and the imaginary part of a complex number (img().

|D|=

 $a_2 \, b_2 \, c_2$

stored in the independent memory (M) and the last answer memory

A complex number expressed in rectangular coordinates with the

From the MATH menu, you can obtain the complex conjugate (conj(), the

The results obtained by these functions may include a margin of error

Simultaneous linear equations with two unknowns (2-VLE) or with three

• If the absolute value of an intermediate result or calculation result is 1 imes 10 100 or more, an error occurs.

Coefficients can be entered using ordinary arithmetic operations. To clear the entered coefficient, press ONC.

s. Press 2ndF or 2ndF to jump to the first or

Press or to move the cursor up or down through the

equation.

• While the solution is displayed, press ENTER or ONC to return to the

coefficient entry display. To clear all the coefficients, press 2ndF CA

3. When all coefficients have been entered, press ENTER to solve the

Quadratic $(ax^2 + bx + c = 0)$ or cubic $(ax^3 + bx^2 + cx + d = 0)$ equations may be solved using the following functions.

Quadratic equation solver: MODE 4 2
 Cubic equation solver: MODE 4 3
 If there are two or more solutions, those solutions are also shown.

If calculable, you can also obtain the minimum value (when a > 0) and

the maximum value (when a < 0) of a quadratic function ($y = ax^2 + bx$

Press (MODE) 4 2 or (MODE) 4 3.
Coefficients for these equations can be entered in the same manner as

return to the solution, press (A) with the minimum value or maximum

When using the QUADRATIC equation solver, continue by pressing ENTER (or) to display the minimum value or maximum value. To

Press MODE 5 to enter MATRIX mode.
 Press MATH 1 to bring up the matrix entry screen.
 Any matrix data remaining in the buffer, along with any previously

entered, loaded, or calculated matrix data, will be displayed

entering the required dimensions using the number keys and pressing

-Element fields

Entry field
 □ ■

Enter each element in the matrix by entering a value in the entry field

 Each matrix element can display up to seven digits (the decimal point counts as one digit). If an element exceeds seven digits in length, it may be displayed in exponent notation within the matrix

A maximum of three rows by three columns can be displayed at

one time. Use lacktriangle, lacktriangle, and lacktriangle to move the cursor

When you have entered a value for each element, press ON/C to exit

the matrix entry screen.

6. Press MATH 3 and select a memory (matA-matD) to store the

Matrix dimensions (row \times column)

3. Define the matrix dimensions (up to four rows by four columns) by

To return to the coefficient entry screen when the solution (or

minimum/maximum value) is displayed, press ENTER or ON/C).

unknowns (3-VLE) may be solved using the following functions

Within the ranges specified, this calculator is accurate to ± 1 of the 10th digit of the mantissa. However, a calculation error increases in continuous calculations due to accumulation of each calculation error. (This is the same for \mathcal{Y}^x , $^x\sqrt{}$, x performed internally.)

161 characters in the Line editor). An equation may not exceed its

Additionally, a calculation error will accumulate and become larger in the vicinity of inflection points and singular points of functions.

If the absolute value of an entry or a final or intermediate result of a calculation is less than 10⁻⁹⁹, the value is considered to be 0 in calculations and in the display.

Display of results using $\sqrt{}$ (when EXACT is selected) Calculation results may be displayed using $\sqrt{\ }$ when all of the following

conditions are met:

When intermediate and final calculation results are displayed in the following form:

 $\pm \frac{a\sqrt{b}}{a} \pm \frac{c\sqrt{d}}{a}$

When each coefficient falls into the following ranges: $1 \le a < 100$; 1 < b < 1,000; $0 \le c < 100$;

 $1 \le d < 1,000; 1 \le e < 100; 1 \le f < 100$ • When the number of terms in the intermediate and final calculation

results is one or two.

Note: The result of two fractional terms that include $\sqrt{\ }$ will be reduced to

BATTERY REPLACEMENT Notes on Battery Replacement

Improper handling of batteries can cause electrolyte leakage or explosion. Be sure to observe the following handling rules:

Make sure the new battery is the correct type.
When installing, orient the battery properly as indicated in the

The battery is factory-installed before shipment, and may be exhausted before it reaches the service life stated in the specifications.

Notes on erasure of memory contents

When the battery is replaced, the memory contents are erased.

Erasure can also occur if the calculator is defective or when it is repaired. Make a note of all important memory contents in case accidental erasure occurs.

it is time to replace the battery.

When to Replace the Battery If the display has poor contrast or nothing appears on the display when ONC is pressed in dim lighting, even after adjusting the display contrast,

Cautions

· An exhausted battery left in the calculator may leak and damage the calculator Fluid from a leaking battery accidentally entering an eye could

result in serious injury. Should this occur, wash with clean water and immediately consult a doctor. Should fluid from a leaking battery come in contact with your skin or

- clothes, immediately wash with clean water. If the product is not to be used for some time, to avoid damage to the unit from a leaking battery, remove it and store in a safe place Do not leave an exhausted battery inside the product.
- Keep batteries out of the reach of children. Explosion risk may be caused by incorrect handling · Do not throw batteries into a fire as they may explode.
- Replacement Procedure
- 1. Turn the power off by pressing (2ndF) (OFF).
 2. Remove two screws. (Fig. 1) Fig. 1
- 3. Lift the battery cover to remove Remove the used battery by prying it out with a ball-point pen or other similar pointed device.
- (Fig. 2) 5. Install one new battery. Make sure the "+" side is facing up.
- 6. Replace the cover and screws.
- Press the RESET switch (on the back) with the tip of a ball-point pen or similar object.
- 8. Adjust the display contrast. See "Adjusting the display contrast". And then press ONC. Make sure that the display appears as shown
- below. If the display does not appear as shown, remove the battery, reinstall it, and check the display once again



1. To load a stored matrix into the matrix entry screen, press MATH , then select the memory (matA-matD) that you wish to modify.

Modifying a stored matrix

- · Loading new data into the screen will automatically replace any
- data that may already exist there
- 2. Modify the values of elements in the matrix, and press (ENTER) after each one.
 - If you wish to modify the number of rows or columns, first press ON/C MATH 1. You can then enter new values for the matrix dimensions
 - 3. When you have finished making changes, press $\overline{\text{ON/C}}$ to exit the matrix entry screen.
 - 4. Press (MATH) 3 and select a memory (matA-matD) to store the

Using Matrices in Calculations

det matrix name

Matrices stored in memories (matA-matD) can be used in arithmetic calculations (with the exception of division between matrices) and calculations that use X^3 , X^2 , and X^{-1} . You can also use the following matrix-specific functions that are available in the MATH menu

trans matrix name	columns transposed to rows and the rows transposed to columns.
identity <i>value</i>	Returns the identity matrix with specified value of rows and columns.
dim (matrix name, row, column)	Returns a matrix with dimensions changed as specified.
fill (value, row, column)	Fills each element with a specified value.
rand_mat (row, column)	Returns a random matrix with specified values of rows and columns
ref(<i>matrix name</i>)	Transform to row echelon form.
rref(<i>matrix name</i>)	Transform to reduced row echelon form.

- If the calculation result is a matrix, it will be displayed in the matrix entry screen (note that this replaces any existing data in the buffer).
- When the calculation results are in matrix form, pressing neither nor will bring you back to the original expression.

35

Before performing vector calculations, a vector must be created

Follow the steps below to enter and store vectors.

1. Press MODE 6 to enter VECTOR mode.

2. Press MATH 1 to bring up the vector entry screen.

- Any vector data remaining in the buffer, along with any previously entered, loaded, or calculated vector data, will be displayed. 3. Define the vector dimensions (2 dimensions or 3 dimensions) by
- field and pressing (ENTER). Each vector element can display up to seven digits (the decimal point counts as one digit).
- If an element exceeds seven digits in length, it may be displayed
- Press (MATH) 3 and select a memory (vectA–vectD) to store the newly-created vector in.

Modifying a stored vector

1. To load a stored vector into the vector entry screen, press ${\tiny \mbox{\scriptsize MATH}}$ 2 , then select the memory (vectA-vectD) that you wish to Loading new data into the screen will automatically replace any

data that may already exist in the vector entry screen

- 2. Modify the values of elements in the vector, and press ENTER after
- 3. When you have finished making changes, press (ONC) to exit the
- vector entry screen.
 4. Press MATH 3 and select a memory (vectA-vectD) to store the

calculations (with the exception of division between vectors). You can also use the following vector-specific functions that are available in the MATH menu. DotPro(vector name, vector name) Returns the dot product.

CrossPro(vector name, vector name)	Returns the cross product.
Angl(vector name, vector name)	Returns the angle.
Unit(vector name)	Returns the unit vector.
Notes:	

You can use "abs" function (abs vector name) for the absolute value. When multiplying vectors, the cross product is calculated.

- When the vector entry screen is displayed, press ON/C and then you If the calculation result is a vector, it will be displayed in the vector
- to store the newly-created vector in.

 When the calculation results are in vector form, pressing neither nor will bring you back to the original expression.

Automatic Power Off Function

This calculator will turn itself off to save battery power if no key is

pressed for approximately 10 minutes

Internal calculations:

and other factors)

Accessories:

Operating temperature:

SPECIFICATIONS

Display of calculation results: Mantissa: 10 digits Exponent: 2 digits Mantissas of up to 14 digits

64 calculations 10 numeric values Pending operations: (5 numeric values in COMPLEX mode, and 1 numeric value for Matrix/Vector data.) Power source: Built-in solar cells

1.5 V ... (DC): Backup battery (Alkaline battery (LR44 or equivalent) × 1) Approx 3 000 hours when continuously Operating time: displaying 55555 at 25°C (77°F), using the (varies according to use

alkaline battery only

0°C-40°C (32°F-104°F)

Battery × 1 (installed), operation manual,

calculation examples, and hard case

External dimensions: 80 mm (W) \times 166 mm (D) \times 15 mm (H) 3-5/32" (W) \times 6-17/32" (D) \times 19/32" (H) Approx. 113 g (0.25 lb) (including battery) Weight:

Visit our Web site https://global.sharp/calculator/

Find the probability density MODE 7 1 Binomial pdf for 15 trials with x = 7, for the binomial distribution with 0 7 ENTER 15 x: n:success probability of 30%. ENTER 0.3 15. $p:0.3_{-}$ ANS = 0.081130033 Calculate the probability of MODE 7 1 Binomial cdf 1 7 ENTER 15 x: 15. n: ENTER 0.3 p:0.3ANS = 0.949987459 Find the probability density MODE 7 2 Poisson pdf 0 4 ENTER 3.6 x: $\mu : 3.6_{-}$ ANS = 0.191222339 MODE 7 2 Poisson cdf 1 4 ENTER 3.6 x:

 $\mu : 3.6.$

0.706438449

ANS =

menu (ALPHA) (STAT) (5) to obtain the values separately

An error will occur when:

The absolute value of the intermediate result or calculation result is equal to or greater than $1\times 10^{100}.$ The denominator is zero. An attempt is made to take the square root of a negative number.

In STAT mode, the three probability density functions can be accessed under the MATH menu, with a random number used as a normal

The default starting value is 0.

5. Enter a step value (X_Step:). The default step value is 1.

• You can use

and

to move the cursor between the starting value and step value.

You can use
and
to change the X value and see its corresponding values in table format.

The table is for display only and you cannot edit the table.

- and angular unit conversions

Buffer full! The equation (including any calculation ending instructions) exceeded its maximum input buffer (159 characters in the WriteView editor or

Questions from each row of the multiplication table (1 to 12) are displayed serially or randomly. To exit DRILL mode, press [MODE] and select another mode

Math operation questions with positive integers and 0 are displayed

randomly. It is possible to select the number of questions and operator

- Using Math Drill and X Table Press MODE 8 0 for Math Drill or MODE 8 1 for X Table. Math Drill: Use ▲ and ▼ to select the number of questions (25,
- X Table: Use ▲ and ▼ to select a row in the multiplication table (1 to 12).

 3. Math Drill: Use ■ and ▶ to select the operator type for questions (+, -, ×, ÷, or +-×÷).
- X Table: Use ■ and ■ to select the order type ("Serial" or When using Math Drill or X Table (random order only), questions are
- randomly selected and will not repeat except by chance.

 Enter your answer. If you make a mistake, press ONC or BS to clear any entered numbers, and enter your answer again
- displayed. If the answer is wrong, " 🛫 " appears and the same question is displayed. This will be counted as an incorrect answer. If you press (ENTER) without entering an answer, the correct answer

is displayed and then the next question is displayed. This will be

counted as an incorrect answer. 7. Continue answering the series of questions by entering the answer and pressing (ENTER 8. After you finish, press ENTER and the number and percentage of

correct answers are displayed. 9. Press ENTER to return to the initial screen for your current drill. **Ranges of Math Drill Questions**

- The range of questions for each operator type is as follows. + Addition operator: "0 + 0" to "20 + 20" **Subtraction operator**: "0 - 0" to "20 - 20"; answers are
- positive integers and 0.

 Multiplication operator: "1 × 0" or "0 × 1" to "12 × 12" **Division operator**: " $0 \div 1$ " to " $144 \div 12$ "; answers are positive integers from 1 to 12 and 0, dividends of up to 144, and divisors of up to 12.

Mixed operators: Questions within all the above ranges are

ERRORS AND CALCULATION RANGES

An attempt was made to perform an invalid operation.

Ex. 2 + - 5 =

An error will occur if an operation exceeds the calculation ranges, or if

a mathematically illegal operation is attempted. When an error occurs, pressing
or automatically moves the cursor back to the place in the equation where the error occurred. Edit the equation or press ONC or 2ndF CA to clear the equation. Error codes and error types ERROR 01: Syntax error

ERROR 02: Calculation error The absolute value of an intermediate or final calculation result equals exceeds 10100.

ERROR 07: Definition error

Alert Messages

cannot be called.

Cannot delete!

ERROR 08: DIM unmatched error

displayed.

An attempt was made to divide by zero (or an intermediate calculation resulted in zero). The calculation ranges were exceeded while performing calculations. 0 or a negative number was entered as a step value in TABLE mode.

The absolute value of a starting value or a step value equals or exceeds 10100 in TABLE mode.

When the number to be factored into primes is greater than 2 and other than a 10-digit positive integer, or when the result of prime factorization is a negative number, decimal, fraction, $\sqrt{\ }$, or π .

ERROR 03: Nesting error
• The available number of buffers was exceeded. (There are 10 buffers* for numeric values and 64 buffers for calculation instructions) 5 buffers in COMPLEX mode, and 1 buffer for matrix/vector data ERROR 04: Data over error Data items exceeded 100 in STAT mode.

Matrix definition error or the attempted entering of an invalid value.

Matrix/vector dimensions inconsistent while calculating. ERROR 10: Undefined error Undefined matrix/vector used in calculation.

in the WriteView editor. Ex. $\sqrt{}$ 5 $\boxed{}$ $\boxed{}$ $\boxed{}$ BS In this example, delete the exponent before attempting to delete the parentheses. Cannot call! The function or operation stored in definable memory (D1 to D3)

Ex. An attempt was made to recall a statistical variable from within NORMAL mode.

The selected item cannot be deleted by pressing BS or 2ndF DEL

Fig. 2

Returns the determinant of a square matrix.

tidio mana name	columns transposed to rows and the rows transposed to columns.
identity <i>value</i>	Returns the identity matrix with specified value of rows and column
dim (matrix name, row, column)	Returns a matrix with dimensions changed as specified.
fill (value, row, column)	Fills each element with a specifie value.
rand_mat (<i>row, column</i>)	Returns a random matrix with specified values of rows and column
ref(<i>matrix name</i>)	Transform to row echelon form.
rref(<i>matrix name</i>)	Transform to reduced row echelo form.

When the matrix entry screen is displayed, you cannot perform matrix calculations because the MATH menu is not available.

To store the calculation result, first press (ON/C) to exit the matrix entry screen. Press [MATH] 3 and select a memory (matA-matD) to store the newly-created matrix in.

VECTOR CALCULATIONS

You can store and calculate up to four vectors of two or three dimension in VECTOR mode Entering and Storing Vectors

using the number keys and pressing [ENTER].
Enter each element in the vector by entering a value in the entry

in exponent notation within the vector.

When you have finished entering a value for each element, press ON/C to exit the vector entry screen.

 If you wish to modify the number of dimensions, first press ON/C MATH 1. You can then enter new values for the vector

newly-created vector in. Using Vectors in Calculations vectors stored in memories (vectA-vectD) can be used in arithmetic

entry screen.

To store the calculation result, first press ONC to exit the vector entry screen. Press MATH 3 and select a memory (vectA-vectD)

SHARP

CALCULATION EXAMPLES **EXEMPLES DE CALCUL** ANWENDUNGSBEISPIELE EJEMPLOS DE CÁLCULO ESEMPI DI CALCOLO RÄKNEEXEMPEL LASKENTAESIMERKKEJÄ 계산 예

WriteView

EL-W506T EL-W516XG **EL-5500X**

PRINTED IN CHINA / IMPRIMÉ EN CHINE / IMPRESO EN CHINA 19ASC (TINSZA151EHM7)

SET UP (FSE)

 $100000 \div 3 =$ ON/C 100000 ÷ 3 [NORM1] 33 333 33333 33 333 33 \rightarrow [FIX: TAB 2] 2ndF SET UP 1 0 2 3.3**E**04 $\rightarrow [SCI: SIG 2] \quad \text{2ndF} \quad \text{SET UP} \quad 1 \quad 1 \quad 2$ \rightarrow [ENG: TAB 2] 2ndF SET UP 1 2 2 33.33 €03 \rightarrow [NORM1] 2ndF SET UP 1 3 33'333.33333

2 SET UP (EDITOR)

	<u> </u>	
→ [APPROX.]	ON/C 2ndF (SET UP) 2 0 1	0.
1 ÷ 2 =	1 ÷ 2 =	0.5
$\to [EXACT(a/b,\!,\!\pi)]$	ON/C 2ndF (SET UP) 2 0 0	0.
1 ÷ 2 =	1 ÷ 2 =	1 2

(RECURRING DECIMAL)

<u> </u>	<u> </u>	
\rightarrow [ON]	ON/C) 2ndF) (SET UP) 5	6
611 ÷ 495 =	611 ÷ 495 =	1 11 6 4 9 5
	CHANGE	611 495
	CHANGE	1.23
	CHANGE	1.23434343
	CHANGE	1 11 6 4 9 5
LINE	611 ÷ 495 =	1.2(34
	(CHANGE)	1.23434343
	(CHANGE	1-116-49
	СНЕЙСЕ	611-49
	CHANGE	1.2(34
→ [OFF]	ON/C) 2ndF) (SET UP) 5	6
→ [OFF]		

→ [OFF]	ON/C) (2ndF) (SET UP) 5	0.
4 CHANGE		
$\frac{2}{5} + \frac{3}{4} =$	ON/C) 2 (a/b) 5 (b) 4 (a/b) 3 (b) 4	$1\frac{3}{20}$
	(CHANGE)	<u>23</u> 20
	CHANGE	1.15
	CHANGE	1 3 20
$\sqrt{3} \times \sqrt{5} =$	√ 3 ► × (√ 5 √15
	CHANGE	3.872983346
sin 45 =	sin 45 =	<u>√2</u> 2
	CHANGE	0.707106781

① 3(5 + 2) =		
0 0(0 1 2) =	3 () 5 (+) 2 () (=)	2
② 3×5+2=	3 × 5 + 2 =	1
$(3)(5+3)\times 2=$	(5 + 3) × 2 =	1
\rightarrow ①	2ndF 🔺	2
→ ②	V	1
\rightarrow ①		2
→ ③	(2ndF) ▼	1

6 + - X	÷ () (—) (Exp	
45 + 285 ÷ 3 =	ON/C 45 + 285 ÷ 3	140.
$(18+6) \div (15-8) =$	(18 + 6) ÷ (15 - 8 =	3 3 7
42 × –5 + 120 =	42 × (-) 5 + 120 =	-90.
$(5 \times 10^3) \div (4 \times 10^{-3}) =$	5 Exp 3 ÷ 4 Exp (-) 3 = 1'250	000
O		

?		
34 <u>+ 57</u> =	34 + 57 =	91.
45 <u>+ 57</u> =	45 =	102.
<u>68 ×</u> 25 =	68 × 25 =	1'700.
<u>68 ×</u> 40 =	40 =	2'720.

8 (<eng) (eng="">)</eng)>		
6789=	ON/C 6789 =	6'789.
	(ALPHA) (ENG>)	6.789 E 03
	(ALPHA) (ENG>)	0.006789 E 06
	(ALPHA) (<eng) (<eng)<="" (alpha)="" td=""><td>6789.E00</td></eng)>	6789. E 00
	(ALPHA) (<eng)< td=""><td>6789000.E-03</td></eng)<>	6789000.E-03

-	$\begin{array}{c c} \textbf{g} & \sin & \cos & \tan \\ & \ln & \log & \log_a \\ \hline & y^x & \sqrt{} & \sqrt{} \end{array}$	$x e^x e^x e^x$	π hyp archy X^{-1} X^2 X^3 πCr % abs	3
	sin 60 [°] =	ON/C 2ndF (SET UP) 0 sin 60 =	0 1	2
		CHANGE	0.86602540):
-	$\cos \frac{\pi}{4} [\text{rad}] =$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		2
		(CHANGE)	0.70710678	3

4	cos π a/b 4 =	2
	CHANGE	0.707106781
tan ⁻¹ 1 [g] =	2ndF (SET UP) 0 2 2ndF (tan-1) 1 =	50.
	2ndF (SET UP) 0 0	
$(\cosh 1.5 + \sinh 1.5)^2 =$		20.08553692
$tanh^{-1} \frac{5}{7} =$	2ndF (arc hyp) tan (

	1.5) $x^2 =$	20.08553	692
$\tanh^{-1} \frac{5}{7} =$	2ndF (arc hyp) (tan) (
7	5 (÷) 7 () (=	0.895879	734
In 20 =	In 20 =	2.995732	274
log 50 =	log 50 =	1.698970	004
log ₂ 16384 =	2ndF (logaX) 2 163	384 =	14.
LINE	2ndF [logaX] 2 (x,y) 163	384 🗍	1 /

log ₂ 16384 =	2ndF (logaX) 2 ▶ 16	384 =	14.
LINE		384 🔵	14.
$e^3 =$	$\boxed{2 \text{ndF}} \boxed{e^x} \boxed{3} \boxed{=}$	20.08553	692
1 ÷ e =	$1 \div \text{ALPHA} e =$	0.367879	441
10 ^{1.7} =	$(2ndF)$ (10^x) 1.7 =	50.11872	336
$\frac{1}{6} + \frac{1}{7} =$	6 (2ndF) X^{-1} + 7 (2ndF) X^{-1} =		<u>13</u> 42
	CHANGE	0.309523	809
0-2 04			

$\frac{1}{6} + \frac{1}{7} =$	6 (2ndF) (x^{-1}) + 7 (2ndF) (x^{-1}) =	13 42
	CHANGE	0.309523809
$8^{-2} - 3^4 \times 5^2 =$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	-2024 63
	CHANGE	- 129599 64
	CHANGE	-2'024.984375

LINE		$ \begin{array}{c cccc} 8 & y^x & (-) \\ 3 & y^x & 4 & \times \\ \hline & & & & \\ \hline & & & & \\ \end{array} $	2 - 5	-2'024.98	4375
		CHANGE		-2024r6	3 r 6 4
		CHANGE		-12959	9г64
8 ³ =		8 2ndF X ³	=		512
$\sqrt{49} - 4\sqrt{8}$	Ī=	√ 49 ► ×√ 81 =	<u> </u>	2ndF	4
LINE		√ 49 − 2ndF ^x √ 8	1 =		4
$3\sqrt{27} =$		2ndF 3 2	7 =		3
4! =		4 2ndF n!	=		24
10P3 =		10 2ndF nP	3 =)	720
5C2 =		5 2ndF nCr	2 =		10
500 × 25%	=	500 × 2	5 (2ndF) (%	125
120 ÷ 400 =	= ?%	120 ÷ 4	00 (2ndF)	%	30
500 + (500	× 25%) =	500 + 2	5 (2ndF)	%	625
400 – (400	× 30%) =	400 _ 3	0 (2ndF)	%	280
 5 – 9 =		2ndF abs 5	_ 9 (=	4
	$\theta = \sin^{-1}$	$x, \theta = \tan^{-1} x$	($\theta = \cos^{-1} x$	
DEG	– 90	$\leq \theta \leq 90$	C	$0 \le \theta \le 180$	
RAD	$-\frac{\pi}{2}$	$\leq \theta \leq \frac{\pi}{2}$		$0 \le \theta \le \pi$	
GRAD	-100	≤ θ ≤ 100	C	$0 \le \theta \le 200$	

$\int_2^8 (x^2 - 5) dx$	ON/C ALPHA ∫dx 2 ▲ 8 ►	
<i>n</i> = 100	=	138.
<i>n</i> = 10	(x,y) 10 =	138.
$\frac{d(x^4 - 0.5x^3 + 6x^2)}{dx}$	(ALPHA) (d/dx) (ALPHA) (X) (yx) 4 () () () () () () () () ()	
$\begin{cases} x = 2 \\ dx = 0.00002 \end{cases}$	2 =	50.

ΦΣ		
$\sum_{x=1}^{5} (x+2)$	$\begin{array}{c c} \text{ON/C} & \text{ALPHA} & \Sigma & 1 & \blacktriangleright & 5 \\ \hline \text{ALPHA} & X & + & 2 & \\ \hline \end{array}$	
n = 1	=	25.
<i>n</i> = 2	(x,y) 2 =	15.
	_	

dx = 0.00002

$\prod_{x=1}^{5} (x+2)$	ON/C ALPHA Π 1 \blacktriangleright 5 \blacktriangleright ALPHA X + 2	
n = 1	=	2'520
n = 2	(x,y) 2 =	105
	_	

13 DRG▶		
90° → [rad]	ON/C 90 (2ndF) DRG>	<u>1</u> л
\rightarrow [g]	2ndF DRG▶	100
→ [°]	2ndF DRG▶	90
ALPHA RO	CI STO M+ M- ANS D	1 D2 D3

3	.[]			18 D°M'S ←DEG M	IATH (→sec, →min)
)	ALPHA RCL STO	M+ M- ANS D1 D2	D3	7°31'49.44" → [10]	ON/C 7 D°M'S 31 D°M 49.44 (2ndF) ++DEG
3	$8 \times 2 \Rightarrow M$	ON/C 8 × 2 STO M	16.	123.678 → [60]	123.678 (2ndF) (++DEC
9	$24 \div (\underline{8 \times 2}) =$	2 4 ÷ (ALPHA) M =	1 1 2	3h 30m 45s + 6h 45m 36s = [60]	3 D°M'S 30 D°M'S 45 + 6 D°M'S 45 D°M
	$(8 \times 2) \times 5 =$	(ALPHA) M × 5 =	80.		36 (=)

$0\RightarrowM$		ON/C STO M	0
\$150 × 3 ⇒	M ₁	150 × 3 M+	450
+) \$250: M ₁ +	250 ⇒ M ₂	250 M+	250
–) M ₂ × 5%		RCL M × 5 (2ndf) (2ndF) M-	35
M =		RCL M	665
$\frac{24}{4+6} = 2\frac{2}{5}$.(A)	24 ÷ (4 +	6 2 <u>2</u> 5
3 × (A) + 60 ÷	- (A) =	3 × (ALPHA) (ANS) + ÷ (ALPHA) (ANS) =	○ 60 32 <u>1</u>
sinh ⁻¹ ⇒ D1		STO D1 (2ndF) (arc hyp) (sin
sinh ⁻¹ 0.5 =		D1 0.5 = 0	.481211825
&			
6 + 4 = ANS		6 + 4 =	
	+	5 =	15.
ANS + 5 =	+	2 =	10. 15. 16. 256.
$6+4 = ANS$ $ANS+5 =$ $8 \times 2 = ANS$ $ANS^2 =$	8 >	2 =	15.
$6+4 = ANS$ $ANS+5 =$ $8 \times 2 = ANS$ $ANS^2 =$	8 > X ²	2 =	15. 16. 256.
$6 + 4 = ANS$ $ANS + 5 =$ $8 \times 2 = ANS$ $ANS^2 =$	8 > X ² b/c ON/C 3 (2)	2 =) =) =) =) =) =) =) =) =) =	15. 16. 256.
$6 + 4 = ANS$ $ANS + 5 =$ $8 \times 2 = ANS$ $ANS^2 =$	8 > X ² ON/C 3 (2	05 =	15. 16. 256. 4 5/6 29/6
$6 + 4 = ANS$ $ANS + 5 =$ $8 \times 2 = ANS$ $ANS^2 =$	+	2 =	15.

4r5r6 [*]	3 (a/b) 1 (a/b) 2 (+) 4 (a/b) 3 (=)	LINE	$0 \le \theta \le 200$	≤ 100
29г6	CHANGE			
4.833333333	CHANGE		2 A 8 D - 5	ALPHA) $\int dx$
	= 4 5 6	* 4г5г6	138.	

	(XOH) (XNOH)			
	DEC (25) → BIN	ON/C (2ndF) DEC 2 5	BIN	11001
50.	HEX (1AC)	2ndF → HEX 1 A C		
	$\to BIN$	2ndF →BIN	BIN	110101100
	$\to PEN$	2ndF →PEN	PEN	3203
25.	\rightarrow OCT	2ndF →OCT	OCT	654
	\rightarrow DEC	2ndF ►DEC		428.

1).				
	BIN (111) → NEG	2ndF → BIN NEG 111 =	BIN	1111111001
	1011 AND 101 = [BIN]	2ndF →BIN 1011 AND 101 =	BIN	1
520	5A OR C3 = [HEX]	2ndF) → HEX 5 A OR C 3 =	HEX	DB
105.	NOT 10110 = [BIN]	2ndF) →BIN) NOT 10110 =	BIN	1111101001
	24 XOR 4 = [OCT]	2ndF → OCT 24 XOR	ОСТ	20

B3 XNOR 2D =

1234°56'12" +

 $\to \mathsf{DEC}$

2ndF → HEX B3 XNOR

1234 (D°M'S) 56 (D°M'S)

(D°M'S) 34.567 (=)

 $0^{\circ}0'34.567" = [60]$ 12 + 0 DMS 0

(2ndF) (►DEC)

DRG▶		
° → [rad]	ON/C 90 (2ndF) (DRG)	<u>1</u> π
[g]	2ndF DRG▶	100.
[°]	2ndF DRG▶	90.

4 ALPHA RCL STO	M+ M- ANS D1 D2	D3	7°31'49.44" → [10]	ON/C 7 D°M'S 31 D°M'S 49.44 2ndF ++DEG
$8 \times 2 \Rightarrow M$	ON/C 8 × 2 STO M	16.	123.678 → [60]	123.678 (2ndF) (++DEG)
$24 \div (\underline{8 \times 2}) =$	2 4 ÷ (ALPHA) M =	1 1/2	3h 30m 45s + 6h 45m 36s = [60]	3 D°M′S 30 D°M′S 45 + 6 D°M′S 45 D°M′S
/\ -				36 =

⇒ M		ON/C STO M		0.	3h 45m - 1.69h = [60]	3 D°M′S 45 — 1.6 (2ndF) ↔ DEG)	59 =	2°3'36."
\$150 × 3 ⇒	• M ₁	150 × 3 M+		450.	sin 62°12'24"	sin 62 D°M′S 12 D		-
\$250: M ₁ +	250 ⇒ M ₂	250 M+		250.	= [10]	24 =		34635235
M ₂ × 5%		==-	2ndF) (%)	7.5	24° → ["]	24 D°M'S (MATH) 1		86'400.
M =		(2ndF) (M-)		35. 665.	1500" → [']	0 (D°M'S) 0 (D°M'S) 150 MATH 2	Ю	25.
		24 ÷ (4 +	<u> </u>			x,y)		
$\frac{4}{-6} = 2\frac{2}{5}$	(A)			2 2 5	$\int x = 6$ $\int r =$	(ON/C) 6 (x,y) 4	r: 7,2′	11102551
(A) + 60 -	÷ (A) =	3 X (ALPHA) (ANS) (=	+ 60	32 1	$y = 4 \rightarrow \theta = 0$	2ndF →rθ	θ: 33.6	39006753
$h^{-1} \Rightarrow D1$		STO D1 2ndF arch	nyp sin		$\begin{cases} r = 14 \\ \theta = 36 [^{\circ}] \end{cases} \rightarrow \begin{cases} x = \\ y = \end{cases}$	$ \begin{array}{c} 14 (\cancel{x}\cancel{y}) 36 \\ 2\text{ndF} (\rightarrow xy) \end{array} $		32623792 28993532
h ⁻¹ 0.5 =		D1 0.5 =	0.48121	1825	20 CONST CONV			
•					$V_0 = 15.3 \text{ m/s}$	ON/C 15.3 \times 16 (2ndF) (x^{-1}) \times (ALF		
- 4 = ANS	ON/C)	6 + 4 =		10.	t = 10 s $V_0 t + \frac{1}{2} g t^2 = ? \text{ m}$	$03 \times 10 x^2$		643.3325
IS + 5 =	+	5 =		15.	125 yd = ? m	ON/C 125(ALPHA) CON	v 05 =	
$\langle 2 = ANS \rangle$	8 🗆	2 =		16.				114.3
$\langle 2 = ANS \rangle$ $ S^2 = ANS $	8 ×			16. 256.	MATH (ENG.S			114.5
IS ² =	X ²				MATH (ENG.S			1'000.
$IS^2 =$	X ²	=		256.	100 m × 10 k = ?	SYMBOL) 100 MATH 0		
IS ² =	(b/c) (ON/C) 3 (2r)					SYMBOL) 100 MATH 0	=	1'000.
IS ² =	(b/c) (ON/C) 3 (2r)	= ab/c 1 v 2		256.	100 m × 10 k = ?	100 MATH 0 0	=	1'000.
IS ² =	(N/C) 3 (2r) + (CHANGE)	= adF ab/c 1 v 2		256. 4 5/6 29/6	100 m × 10 k = ? MDF \rightarrow [FIX, TAB = 1]	SYMBOL) 100 MATH 0 0 100 MATH 0 0	=	1'000.
IS ² =	(N/C) 3 (2r) +	= adF ab/c 1 v 2	4.83333	256. 4 5/6 29/6	100 m × 10 k = ? MDF \rightarrow [FIX, TAB = 1]	SYMBOL) 100 MATH 0 0 100 MATH 0 0 ONC 2ndF SET UP 5 ÷ 9 =	=	1'000. 0.0 5 9 0.6 5.0
IS ² =	(N)C 3 (2r) + (HANGE) (HANGE)	=	4.83333	256. 4 5/6 29/6 3333	100 m × 10 k = ? 2 MDF → [FIX, TAB = 1] 5 ÷ 9 = ANS	ONC 2ndF SET UP 5 ÷ 9 = ONO S + 9 = S + 9 = S + 9 =	=	1'000. 0.0 5 9 0.6 5.0 5 9
$ S^2 = \frac{ A b a}{ A b 4} = \frac{1}{2} + \frac{4}{3} = \frac{1}{2}$	(CHANGE) (CHANGE) (CHANGE) (CHANGE) (CHANGE) (CHANGE) (CHANGE) (CHANGE)	=	4.83333	256. $\frac{4\frac{5}{6}}{\frac{29}{6}}$ 3333	100 m \times 10 k = ? MDF $\rightarrow [FIX, TAB = 1]$ $5 \div 9 = ANS$ $ANS \times 9 =$	ONC 2ndF SETUP 5 ÷ 9 = CHÂNE X 9 = *1 5 ÷ 9 = CHÂNE	=	1'000. 0.0 5 9 0.6 5.0 5 9 0.6
$ S^2 = \frac{ A b a}{ A b 4} = \frac{1}{2} + \frac{4}{3} = \frac{1}{2}$	(N)C 3 (2r) + (HANGE) (HANGE)	=	4.83333	256. 4 5/6 29/6 3333	100 m × 10 k = ? 2 MDF → [FIX, TAB = 1] 5 ÷ 9 = ANS	ONC 2ndF (SET UP) 5 ÷ 9 = (ONG) (O	=	1'000. 0.0 $\frac{5}{9}$ 0.6 $\frac{5}{9}$ 0.6 $\frac{3}{5}$
$ S^2 = \frac{ A b a}{ A b 4} = \frac{1}{2} + \frac{4}{3} = \frac{1}{2}$	(CHANGE) (CHANGE) (CHANGE) (CHANGE) (CHANGE) (CHANGE) (CHANGE) (CHANGE)	=	4.83333	$4\frac{5}{6}$ $\frac{29}{6}$ 3333 $r5r6^*$	100 m \times 10 k = ? MDF $\rightarrow [FIX, TAB = 1]$ $5 \div 9 = ANS$ $ANS \times 9 =$	ONC 2ndF SET UP 5 ÷ 9 = CHÁIGE 2ndF MDF 2ndF MDF 2ndF MDF	=	1'000. 0.0 $\frac{5}{9}$ 0.6 5.0 $\frac{5}{9}$ 0.6 $\frac{5}{5}$ $\frac{5}{9}$
$ S^2 = \frac{ A b a}{ A b a}$ $\frac{1}{2} + \frac{4}{3} = \frac{ A b a}{ A b a}$ $ A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B A B$	D/C ON/C 3 2r CHANGE CHANGE CHANGE CHANGE CHANGE CHANGE	=	4.83333	$4\frac{5}{6}$ $\frac{29}{6}$ 3333 $r5r6^*$	100 m \times 10 k = ? MDF $\rightarrow [FIX, TAB = 1]$ $5 \div 9 = ANS$ $ANS \times 9 =$ $\rightarrow [MDF]$ $ANS \times 9 =$	ONC 2ndF SETUP ONC 2ndF SETUP S ÷ 9 = CHÂGE X 9 = *1 S ÷ 9 = CHÂGE 2ndF MDF X 9 = *2 CHÂGE	1 0 1	1'000. 0.0 $\frac{5}{9}$ 0.6 5.0 $\frac{5}{9}$ 0.6 $\frac{5}{5}$ 5.4
$ S^2 = \frac{ A b a}{12} + \frac{4}{3} = \frac{ A b}{12} + \frac{4}$	(CAMORE)	a/b 2 a/b 2 a/b 2	4.83333	$\frac{4\frac{5}{6}}{6}$ $\frac{29}{6}$ $\frac{29}{6}$ $\frac{3333}{2976}$	100 m \times 10 k = ? MDF $ \rightarrow [FIX, TAB = 1] $ 5 ÷ 9 = ANS ANS \times 9 = $ \rightarrow [MDF] $ ANS \times 9 = $ \rightarrow [MDF] $ ANS \times 9 = $ \rightarrow [MDF] $	ONC 2ndF SET UP ONC 2ndF SET UP 5 ÷ 9 = outline (andF) MDF × 9 = *2 outline (andF) SET UP Outline (andF) MDF	1 0 1	1'000. 0.0 $\frac{5}{9}$ 0.6 5.0 $\frac{5}{9}$ 0.6 $\frac{5}{5}$ $\frac{5}{9}$
$ S^2 = \frac{ A b a}{12} + \frac{4}{3} = \frac{ A b}{12} + \frac{4}$	(D/C) 3 (2r) + (CHANGE) + (CHANG	=	4.83333	$\frac{4\frac{5}{6}}{6}$ $\frac{29}{6}$ $\frac{29}{6}$ $\frac{3333}{2976}$	100 m \times 10 k = ? MDF $ \rightarrow [FIX, TAB = 1] $ 5 ÷ 9 = ANS ANS \times 9 = $ \rightarrow [MDF] $ ANS \times 9 = $ \rightarrow [MDF] $ ANS \times 9 = $ \rightarrow [MDF] $	ONC 2ndF SETUP ONC 2ndF SETUP S ÷ 9 = CHÂGE X 9 = *1 S ÷ 9 = CHÂGE 2ndF MDF X 9 = *2 CHÂGE	1 0 1	1'000. 0.0 $\frac{5}{9}$ 0.6 5.0 $\frac{5}{9}$ 0.6 $\frac{5}{5}$ 5.4

-159.

 $7\frac{663}{1250}$

123°40'40.8"

10°16'21."

1234°56'47."

1234567 =

HEX FFFFFFF61

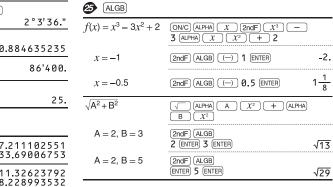
int ÷ MATH (ipart, fpart, int, (%))

2ndF P.FACT

2ndF P.FACT

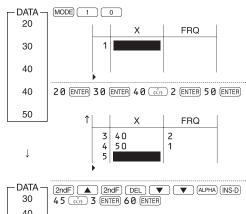
1234567 =

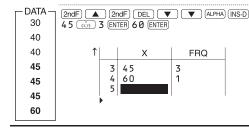
23 ÷ 5 =	ON/C 23 (2ndF) (int ÷ 5	Q: R:	4. 3.
9.5 ÷ 4 =	9 . 5 (2ndF) (int ÷) 4	Q: R:	2. 1.5
-32 ÷ (-5) =	() 32 (2ndF) (int÷) () 5 =	Q: R:	6. -2.
42.195 → [ipart]	MATH 3 42.195		42.
$\sqrt{2} \rightarrow [fpart]$	MATH 4 \(\sqrt{2} =	0.4142	13562
-34.5 → [int]	MATH 5 (-) 34.5		-35.
50 × 8(%) + 200 =	50 × 8 MATH 6 + 200 =		204.
24 (P.FACT)			
12210 =	N/C 12210 =	1	2'210.
2	ndF) (P.FACT)	2×3×5×	11×37





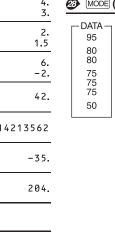






3 75 4 50

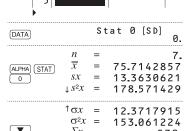




12'210.

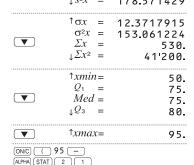
1'234'567

127×(9721)

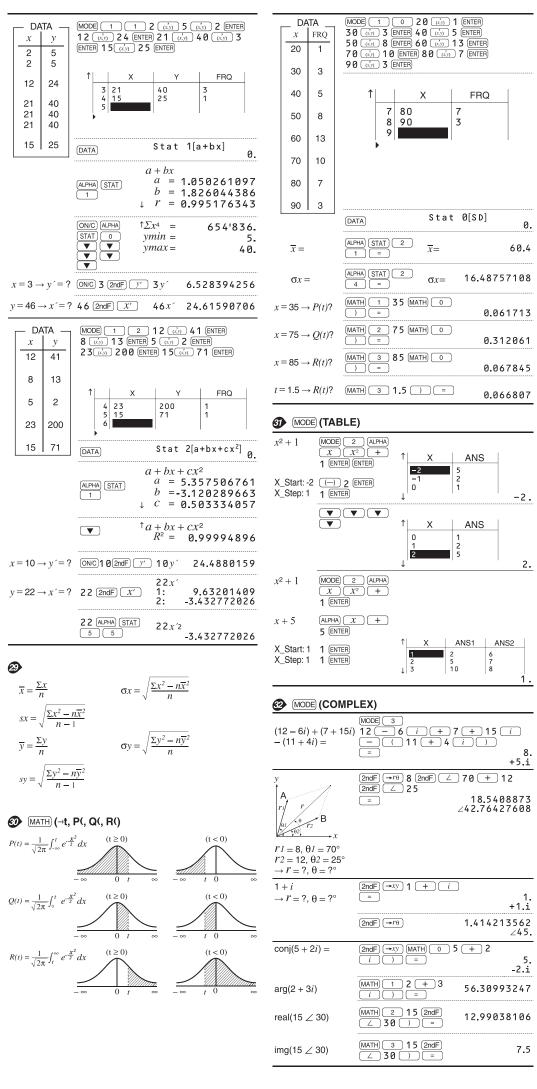


95 ENTER 80 (xxx) 2 ENTER 75 (xxx) 3

FRQ







[O O	MODE 4 0
$ \begin{aligned} 2x + 3y &= 4\\ 5x + 6y &= 7 \end{aligned} $	2 (ENTER) 3 (ENTER) 4 (ENTER) 5 (ENTER) 6 (ENTER) 7
x = ?	(ENTER) X:
y = ?	Y:
det(D) = ?	D: -
x + y - z = 9	MODE 4 1
6x + 6y - z = 17	1 (ENTER) 1 (ENTER) (-) 1 (ENTER) 9 (ENTER) 6 (ENTER) 6 (ENTER) (-) 1 (ENTER) 17 (ENTER)
14x - 7y + 2z = 42	1 4 ENTER (—) 7 ENTER 2 ENTER 42
x = ?	ENTER X: 3.23809523
y = ? z = ?	Y: -1.63809523 Z: -7
z = r det(D) = ?	D: 10
	MODE 4 2
$3x^2 + 4x - 95 = 0$	3 ENTER 4 ENTER (—) 95
x = ?	ENTER X =
	1: 2: -6.33333333
	ENTER X-Value:
	-0.6666666
	Ymin: -96.3333333
$5x^3 + 4x^2 + 3x + 7 =$	MODE 4 3 0 5 ENTER 4 ENTER 3 ENTER 7
x = ?	ENTER X =
x = :	1: -1.23360030
	2: 0.21680015
	±1.043018296
MODE (MATRI	v)
MODE (MATRI	·
$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \Rightarrow \text{matA}$	MATH 1 2 2 ENTER
13 41	1 ENTER 2 ENTER 3 ENTER 4 ENTER
	ON/C) MATH) 3 0
$\begin{bmatrix} 3 & 1 \\ 2 & 6 \end{bmatrix} \Rightarrow \text{matB}$	MATH) 1 ENTER 3 ENTER 1 ENTER 2 ENTER 6 ENTER
12 6]	ON/O MATH 3 1
$matA \times matB =$	ON/C MATH 0 0 X 7 13
	MATH 0 1 = 17 27
dim (matA, 3, 3) =	ON/C MATH 7 MATH 1 2 0
	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
MODE (VECTO	OR)
	(MODE) 6
$\begin{bmatrix} 5 \\ 6 \end{bmatrix}$ \Rightarrow vectA	MATH 1 2 ENTER
[6]	5 ENTER 6 ENTER ON/C (MATH) 3 0
$\begin{bmatrix} 7 \\ 8 \end{bmatrix}$ \Rightarrow vectB	MATH) 1 2 [ENTER] 7 [ENTER] 8 [ENTER]
r Q]	ON/C MATH 3 1
vectA + vectB =	ON/O MATH 0 0 + 11
	MATH) 0 1 = 11
DotPro (vectA, vectl	
	$ \begin{array}{cccc} $
36	
Function	Dynamic range
Fonction	Plage dynamique
Funktion Función	zulässiger Bereich Rango dinámico
Funzioni	Campi dinamici
Funktion Funktio	Definitionsområde Dynaaminen ala
함수	동적 범위
	DEG: $ x < 10^{10}$
	$(\tan x \cdot x \neq 90(2n - 1))^*$
	RAD: $ x < \frac{\pi}{100} \times 10^{10}$
	180 \ 180
$\sin x$, $\cos x$, $\tan x$	RAD: $ x < \frac{\pi}{180} \times 10^{10}$ $(\tan x: x \neq \frac{\pi}{2} (2n - 1))^*$
$\sin x$, $\cos x$, $\tan x$	$ \tan x: x \neq \frac{1}{2}(2n-1)$
$\sin x$, $\cos x$, $\tan x$	$(\tan x: x \neq \frac{10}{2}(2n-1))^{*}$ GRAD: $ x < \frac{10}{9} \times 10^{10}$
	$(\tan x: x \neq \frac{1}{2}(2n-1))^*$ GRAD: $ x < \frac{10}{9} \times 10^{10}$ $(\tan x: x \neq 100(2n-1))^*$
$\sin^{-1} x, \cos^{-1} x$	$(\tan x: x \neq \frac{1}{2}(2n-1))^*$ GRAD: $ x < \frac{10}{9} \times 10^{10}$ $(\tan x: x \neq 100(2n-1))^*$ $ x \leq 1$
	$(\tan x: x \neq \frac{1}{2}(2n-1))^*$ GRAD: $ x < \frac{10}{9} \times 10^{10}$ $(\tan x: x \neq 100(2n-1))^*$

 $\ln x$, $\log x$, $\log_a x$ $10^{-99} \le x < 10^{100}$, $10^{-99} \le a < 10^{100}$ $(a \ne 1)$

	• $y > 0$: $-10^{100} < x \log y < 100$	
	• $y = 0$: $0 < x < 10^{100}$	
y^x	• $y < 0$: $x = n$	1
	$(0 < x < 1: \frac{1}{x} = 2n - 1, x \neq 0)^*,$	
	$-10^{100} < x \log y < 100$	
	• $y > 0$: $-10^{100} < \frac{1}{x} \log y < 100 \ (x \neq 0)$	-
	• $y = 0$: $0 < x < 10^{100}$	1
$x\sqrt{y}$	• $y < 0$: $x = 2n - 1$	-
	$(0 < x < 1: \frac{1}{x} = n, x \neq 0)^*,$	ı
	$-10^{100} < \frac{1}{x} \log y < 100$	-
e ^x	$-10^{100} < x \le 230.2585092$	_
10 ^x	$-10^{100} < x < 100$	
sinh x. cosh x. tanh x	x ≤ 230.2585092	i
$-\sin h^{-1}x$	x < 10 ⁵⁰	-
	$1 \le x < 10^{50}$	*
cosh ⁻¹ x		
tanh ⁻¹ x	x < 1	
x ²	$ x < 10^{50}$	
r ³	$ x < 2.15443469 \times 10^{33}$	
\sqrt{x}	$0 \le x < 10^{100}$	F
x ⁻¹	$ x < 10^{100} (x \neq 0)$	
<u>.</u> า!	0 ≤ n ≤ 69*	
	0 ≤ r ≤ n ≤ 9999999999*	
nPr	$\frac{n!}{(n-r)!} < 10^{100}$	
0	$0 \le r \le n \le 99999999999$ * $0 \le r \le 69$	
nCr	$\frac{0.51509}{\frac{n!}{(n-r)!}} < 10^{100}$	-
DEC DOMES	, ,	
↔DEG, D°M'S	$0^{\circ}0'0.00001" \le x < 10000^{\circ}$	
$x, y \to r, \theta$	$\sqrt{x^2 + y^2} < 10^{100}$	Г
	$0 \le r < 10^{100}$	
$r, \theta \to x, y$	DEG: $ \theta < 10^{10}$ RAD: $ \theta < \frac{\pi}{180} \times 10^{10}$	
, , , , , ,	100	
	GRAD: $ \theta < \frac{10}{9} \times 10^{10}$	
	$DEG \rightarrow RAD$, $GRAD \rightarrow DEG$: $ x < 10^{100}$	
DRG►	$RAD \rightarrow GRAD: x < \frac{\pi}{2} \times 10^{98}$	1
nGCDn, nLCMn	0 < n < 10 ¹⁰ *	
		1
R.Int(m, n)	m ≤ 9999999999* n ≤ 999999999*	
V 7.77	$m < n, n - m < 10^{10}$	
(A + Bi) + (C + Di)	A + C < 10 ¹⁰⁰ , B + D < 10 ¹⁰⁰	L
(A + Bi) - (C + Di)		
	$(AC - BD) < 10^{100}$	
$(A + Bi) \times (C + Di)$	$(AC - BC) < 10^{-100}$	
	AC + BD . 10100	-
/A BD /5 = "	$\frac{AC + BD}{C^2 + D^2} < 10^{100}$	
$(A + Bi) \div (C + Di)$	$\frac{BC - AD}{C^2 + D^2} < 10^{100}$	
	$C^2 + D^2 \neq 0$	
→ DEC	DEC: x ≤ 9999999999	
\rightarrow BIN	BIN: $10000000000 \le x \le 111111111111$	
→ PEN → OCT	$0 \le x \le 1111111111$ PEN: 222222223 $\le x \le 44444444444$	
→ HEX	$0 \le x \le 2222222222$	
AND OR	OCT: $40000000000 \le x \le 77777777777777777777777$	
XOR	HEX: FDABF41C01 $\leq x \leq$ FFFFFFFFF	Γ
VNOD	0 ≤ x ≤ 2540BE3FF	
XNOR	BIN: $10000000000 \le x \le 111111111111$	
XNOR		
XNOR	$0 \le x \le 111111111$ PEN: 222222223 $\le x \le 4444444444$	
	$0 \le x \le 1111111111$ PEN: 2222222223 $\le x \le 44444444444$ $0 \le x \le 2222222221$	
NOT	$0 \le x \le 111111111$ PEN: $2222222223 \le x \le 4444444444$ $0 \le x \le 2222222221$ OCT: $4000000000 \le x \le 7777777777$ $0 \le x \le 3777777777$	
	$0 \le x \le 111111111$ PEN: 2222222223 \(\le x \le 4444444444 \) $0 \le x \le 22222222221$ OCT: 4000000000 \(\le x \le 77777777777777777777777777777777777	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3

$\begin{array}{c} 0 \leq x \leq 111111111\\ \text{PEN: } 2222222223 \leq x \leq 4444444444\\ 0 \leq x \leq 222222222\\ \text{OCT: } 4000000001 \leq x \leq 777777777\\ 0 \leq x \leq 3777777777\\ \text{HEX: } \text{FDABF41C01} \leq x \leq \text{FFFFFFFFF}\\ 0 \leq x \leq 2540\text{BE3FF} \end{array}$
0 < σ
0 < a < 1 0 < σ
$ 0 < n \\ 0 \le p \le 1 $
$0 \le x$ (integer / entier / ganze Zahlen / entero / intero / heltal / kokonaislukd / 정수) $0 < \mu$

nufactured by

HARP CORPORATION saka 590-8522, Japan

ported into Europe by IORAVIA Europe, spol. s r.o., Dlomoucká 83, 627 00 Brno, Czech Republic /isit our Web site

ttp://www.moravia-europe.eu

nation on the Disposal of this Equipment and its Batteries

ation sur la mise au rebut de cet Équipement et de ses Piles/Batteries SI VOUS VOULEZ METTRE AU REBUT CET ÉQUIPEMENT OU SES PILES/BATTERIES, N'UTILISEZ PAS LA POUBELL ORDINAIRE! NE LES BRULEZ PAS DANS UNE CHEMINÉE!

sein de l'Union européenne

nt être rassemblés et traités SEPAREMENT conformément à la la assure un traitement respectueux de l'environnement, proma lagge de matériels et réduit au minimum le volume final de déchet lue ménage devarit participer. Le DEPOT SAUVAGE peut être le pour la santé humaine et l'environnement en raison de la nonce de substances dangereuses (DE SYMBOLE est visible sur pement électrique et électronique et ur les ples/shetriers (ou sur emballages) afin de vous le rappelert SI "Hg' ou "Pb' apparaissent sexous sur la pile/batterie, cela signifie que la pile/batterie contier racces de mercure (Hg) ou de pômb (Pb).

races de mercure (Hg) ou de plomb (Pb).

ses l'EÓUPEMENT USAGE à l'endroit prévu par votre
cipalité, si disponible. Auparavant, ôter les Piles/Batteries usagée:
ser des PILES/BATTERIES UTILLESES à l'endroit prévu pour la
te de plie/batterie; cela peut être chez votre fournisseur habituel
le collecteur approprié. Dans le doute, entrez en contact avec
revendeur ou les autorités bcales et demandez des informations
uméthode à utiliser pour la mise au rebut.

arauf hinweisen! Wenn darunter noch 'Hg' oder 'Pb' steht, utet dies, dass Spuren von Quecksilber (Hg) or Blei (Pb) in der

EU only:

Takumi-cho, Sakai-ku, Sakai City

FI YOU WISH TO DISPOSE OF THIS EQUIPMENT OR ITS
BATTERIES, DO NOT USE THE ORDINARY WASTE BIN!
DO NOT PUT THEM INTO A FIREPLACE!

electrical and electronic equipment and batteries must be telectrical and electronic equipment and batteries must be teled and treated SEPARATELY in accordance with law. This rees an environment-linendly treatment, promotes recycling of trials, and minimizes final disposal of waste. Each household should pipate! LILEGAL DISPOSAL can be harmful to human health and whitenment due to contained hazardous substances i THIS BOL appears on electrical and electronic equipment and batteries to packaging) to remind you of that If If I/G or I/D appears below it neans that the battery contains traces of mercury (Hg) or lead (Pb)

ecuivery. USED EQUIPMENT to a local, usually municipal, collection facility, re available. Before that, remove batteries. Take USED BATTERIBE battery collection facility; usually a place where new batteries are Ask there for a collection box for used batteries. If in doubt, contact dealer or local authorities and ask for the correct method of

other Countries outside the EU

u wish to discard this product, please contact your local authorit

pement électrique et électronique usagé et les piles/batteries nt être rassemblés et traités SÉPARÉMENT conformément à la lo

mationen zur Entsorgung dieses Gerätes und der Batterien WENN DIESES GERÄT ODER DIE BATTERIEN ENTSORGT WERDEN SOLLEN, DÜRFEN SIE NICHT ZUM HAUSMÜLL GEGEBEN WERDEN! der Europäischen Union

der Europäischen Union
rauchte elektrische und elektronische Geräte und Batterien müsse
Gesetz GETRENNT gesammelt und entsorgt werden. So werden
rwegteneundliche Abdalbehandlung und das Recycling von Stoffer
grestellt und die Rest-Abfallmengen minimiert, Jeder Haushalt
dies unterstützen. Die ORDNUNGSWIDRIGE ENTSORGUNG
det wegen der schädlichen Stoffe darin der Gesundheit und der
velt 1 DIESES ZEICHEN auf Gerät, Batterie oder Verpackung soll
traust hiswesen. Menn der unter nech Held oder Pibl stoht.

bedeutef dies, dass spuren von Quecksilber (rig) or blei (ru) in uer Batterie vorhanden sind, Bringen Sie GEBRAUCHTE ELEKTRISCHE UND ELEKTRONISCHE GERÄTE zur einer örtlichen, meist kommunalen Sammelstelle, soweit vorhanden. Entnehmen Sie zuvor die Batterien. Bringen Sie VERBRAUCHTE BATTERIEN zu einer Batterie-Sammelstelle, zumeist dort, wo neue Batterien verkauft werden, Fragen Sie dort nach einem Sammelbeshälter für verbrauchte Batterien. Wenden Sie sich im Zweifel an Ihren Händler oder ihre örtlichen Behörden, um Auskunft über die richtige Entsorgung zu erhalten.

2. In anderen Ländern außerhalb der EU Bitte erkundigen Sie sich bei Ihrer Gemeindeverwaltung nach dem ordnungsgemäßen Verlahren zur Entsorgung dieses Geräts.

Información sobre el Desechado de este Aparato y sus Pilas SI USTED DESEA DESECHAR ESTE APARATO O SUS PILAS, NO USE EL CONTENEDOR DE RESIDUOS HABITUAL ! NO LOS DEPOSITE EN LUGARES CON

. En la Unión Europea

1. En la Unión Europea
Los aparatos eléctricos y electrónicos y las pilas usadas deben ser recogidos y tratados SEPARADAMENTE de acuerdo con la Ley. Esto garantiza un tratamiento respetuoso del medio ambiente, promueve el reciclaje de materiales, y minimiza el desecho final de residuos. Todo so hogares deben participar. I El DESECHADO ILEGAL puede ser perjudicial para la salud humana y el medio ambiente, debido a las sustancias pelgrosas contenidas I. ESTE SIMBOLO aparece en los aparatos eléctricos y electrónicos y en las pilas (o en el embalaje) para recordárseb I. Si "Hg" o "Pb" aparece debajo, significa que contienen trazas de mercurio (Hg) o plomo (Pb), respectivamente.

trazas de mercuno (rg) o plomo (rb), respectivamente. Llevel los APARATOS USADOS a un centro de recogida local, normalmente municipal, cuando esté disponible, Antes de so, retire las pilas. Lleve las PILAS USADAS a un centro de recogida de pilas, por lo general un lugar donde se venden pilas nuevas. Pregunte all por la caja de recogida de pilas usadas. En caso de duda, contacte con su distributior o con las autoridades locales y pregunte por el método

2. En otros países fuera de la Unión Europea

Si desea desechar este producto, por favor póngase en contacto con las autoridades locales y pregunte por el método de eliminación

Informazioni sullo smaltimento di questo apparecchio e delle sue batterie
PER SMALTIRE II. PRESENTE DISPOSITIVO O LE SUE
BATTERIE, NON UTILIZZARE II. NORMALE BIDONE DELLA
SPAZZATURA I NON INCENERIRE!

SPAZZATURA I NON INCENERIRE!

1. Nell'Unione europea

Le apparecchiature elettriche ed elettroniche usate e le batterie, devor essere raccolè SEPARATAMENTE e in conformità alla legislazione vigente Questo assicura un trattamento ambientalmente compatibile, che promuvo el incideggio dei materiali, e minimizza il conferimento finale di rifiuti, Ognuno di noi può contriburie I lo SMALTIMENTO ILLEGALE può essere pericoloso per la salute umana e l'ambiente a causa delle sostanze pericoloso contenute I QUESTO SIMBOLO sulle apparecchiature elettriche ed elettroniche e le batterie o l'imballaggio de pri grondradi quiesti (Se III-d' Pib) sono pesanti là sotto sionifica che pre incordradi quiesti (Se III-d' Pib) sono pesanti là sotto sionifica che presenti de sotto sionifica che controlle del productional del productiona

piombo (Pb).

Porta gli APPARECCHI USATI alla più vicina piazzola municipale ove disponibile. Rimuovi prima le batterie. Porta le BATTERIE USATE negli appositi contenitori che si trovano nelle piazzole o nel punti vendita di nouve batterie. Chiedi li per il contenitore delle batterie usate Per dubbi o chiarimenti contatta il tuo Rivenditore o le locali autorità e chiedi informazioni sul corretto metodo di smallimento.

2. In pessi che non fanno parte dell'UE

Se si desidera eliminare il presente prodotto, contattare le autorità locali e informarsi sul metodo di smaltimento corretto.

Information om avfallshantering av denna utrustning och dess batterier
OM DU ÖNSKAR AVFALLSHANTERA DENNA UTRUSTNING
ELLER DESS BATTERIER, ANVÄND INTE ORDINARIE
SOPTUNNAI KASTA INTE UTRUSTNINGEN ELLER DESS
BATTERIER I ÖPPEN ELD!

1. EU-länder

Elektrisk och elektronisk utrustning samt batterier måste samlas in och avfallshanteras SEPARAT i enighet med gällande lagstiftning. Detta garanterar en miljövänlig hantering och återvinning av produkten och dess batterier, samt minimerar det stutliga avfallet. Varje hushäll bör hjälpa till OLAGIG AVFALLSHANTERINIK sam vara skadligt för människan och miljön på grund av farliga substanser! DENNA SYMBOL finns på elektrisk och elektronisk utrustning och batterier eller förpackning för att påminna om dettal Om texten "Hg" eller" Pb" finns nedanför, betyder detta att batteriet innehåller spår av kvicksilver (Hg) eller bly (Pb).

Fa UTRUSTNINGEN till en lokal, oftast kommunal återvinningsstation Ta först ut batterierna. Uttjända batterier lämnas i sårskilda batteribehållare. Sådana behållare finns på alla återvinnings eller i buttler där batterier säljs. Är du osäker, kontakta din å eller kommunens miljökontor för information om korrekt avfa

uner vonrrunens miljokontor för information om korrekt avfallshanterin 2. Länder utanför EU

Kontakta de lokala myndigheterna och ta reda på gällande sorteringsoch återvinningsföreskrifter om du behöver göra dig av med denna
produkt. SVENSKA

Tietoa tämän tuotteen ja sen paristojen hävittämisestä

JOS HALUAT HÄVITTÄÄ TÄMÄN TUOTTEEN TAI SEN
PARISTOT, ÄLÄ HEITÄ SEKAJÄTTEIDEN JOUKKOONI EI
SAA HÄVITTÄÄ POLTTAMALLA!

1. Euroopan unionissa

1. Euroopan unionissa Käyletty elketroniikkalarviikkeet ja paristot tulee kerätä ja lajitella ERIKSEEN lain määrittelemällä tavalla, Tämä takia ympäristöystävällisen jätteenkäsittelyn, parantaa materiaallen kierrätysti ja minimio bypujiteten määrän. Jokalesen kolitabuden tulisi osallistuat LAITON HÄVITTÄAIINEN voi olla häutallista terveyödel ja ympäristölle vaarallisten aineiden johdostal Tähäl SYMBOUL elektroniikketarviikkeissa ja paristoissa (tai pakkauksessa) on muistuttamassa sinua tästä 1 osa alia on merkintä Hyj tai Py, tämä tarkoittaa, että paristo sisältää jälikiä elohopeasta (Hyj lai lyijystä (Pb). Vie KÄYTETTY ELEKTRONIIKKA paikalliseen, usein kunnan omistuksessa olevaan, jätteen käsittelylaitokseen. Ennen viemistä, poista paristot, Vie KÄYTETTY PARISTOT paristojen keräykseen; usein sijoitettu lähelle paristojen myyntipisteitä. Tiedustele keräyslaatikkoa käytetylile paristollie. Mikäli dele epäavama, ola yhteyttä oponetuu autene paristojen myyntipistelitä. Tiedustele keräyslaati käytetyille paristoille. Mikäli olet epävarma, ota yhteyttä myyjäliikkeeseen tai paikallisviranomaiseen ja kysy neuvoa oike avasta hävittämiselle.

tavasta hävittämiselle.

2. Muissa maissa EU:n ulkopuolella

Jos haluat hävittää tuotteen, ota yhteys paikallisiin viranomaisiin ja
pyydä ohjeita tuotteen asianmukaiseen hävittämiseen.

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THIS PRODUCT CONTAINS BUTTON BATTERIES. KEEP BATTERIES OUT OF REACH OF CHILDREN.

