

fx-95
fx-500

ENGLISH
ESPAÑOL

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U.S. Patent 3,956,000

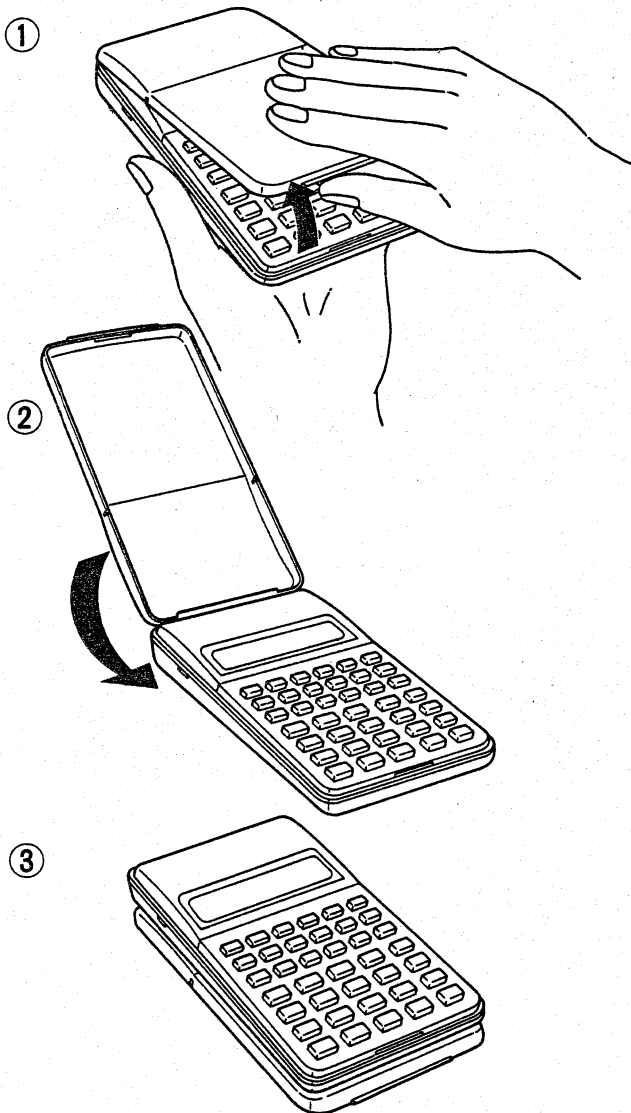
CASIO®

SA1121C
Printed in Malaysia

英西

CASIO®

[fx-95]



Handling precautions

- Your calculator is made up of precision components. Never try to take it apart.
- Avoid dropping your calculator and subjecting it to other strong impacts.
- Do not store the calculator or leave it in areas exposed to high temperatures or humidity, or large amounts of dust. When exposed to low temperatures, the calculator may require more time to display results and may even fail to operate. Correct operation will resume once the calculator is brought back to normal temperature.
- The display will go blank and keys will not operate during calculations. When you are operating the keyboard, be sure to watch the display to make sure that all your key operations are being performed correctly.
- Never leave dead batteries in the battery compartment. They can leak and damage the unit.
- Avoid using volatile liquids such as thinner or benzine to clean the unit. Wipe it with a soft, dry cloth, or with a cloth that has been dipped in a solution of water and a neutral detergent and wrung out.
- In no event will the manufacturer and its suppliers be liable to you or any other person for any damages, expenses, lost profits, lost savings or any other damages arising out of loss of data and/or formulas arising out of malfunction, repairs, or battery replacement. The user should prepare physical records of data to protect against such data loss.
- Never dispose of batteries, the liquid crystal panel, or other components by burning them.
- Before assuming malfunction of the unit, be sure to carefully reread this manual and ensure that the problem is not due to insufficient battery power or operational errors.

KEY INDEX

Page	Page	Page	Page	Page	Page	Page
SHIFT	e^x	10^x	x^2	10^x	x^2	SHIFT
5	51	51	52	51	52	5
6	50	50	52	51	6	6
d/c	\cos^{-1}	\sin^{-1}	$\sqrt{\quad}$	\log	\leftarrow	d/c
44	49	50	52	50	47	44
				\sin^{-1}	\leftarrow	
42	48	48	49	48	47	42
$\sqrt[3]{\quad}$	$1/x$	$X \leftrightarrow M$	$X \leftrightarrow Y$	$1/x$	$X \leftrightarrow M$	$\sqrt[3]{\quad}$
52	49	42	38	49	54	52
\pm/\mp			\leftarrow		\leftarrow	\pm/\mp
9	41	10	10	41	54	9
	53	41	10	53	54	

Page	Page	Page	Page	Page	Page	Page
\bar{x}	x^y	x^y	x^y	x^y	x^y	x^y
38	51	37	55	37	44	37
59	37	37	37	37	37	37
Σx^2	\div	\div	\div	\div	\div	\div
37	37	37	37	37	37	37
Σx^2	\div	\div	\div	\div	\div	\div
37	37	37	37	37	37	37
Σx^2	\div	\div	\div	\div	\div	\div
53	41	41	44	44	44	41
RND	\div	\div	\div	\div	\div	\div
37	41	41	37	37	37	41
	\div	\div	\div	\div	\div	\div
	\div	\div	\div	\div	\div	\div
	\div	\div	\div	\div	\div	\div

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1/GENERAL GUIDE

1-1 Power ON/OFF

To turn your unit on, press **AC ON**.
To turn your unit off, press **OFF**.

Auto power-off function

This unit automatically switches off if not operated for approximately 6 minutes. Power can be restored by pressing the **AC ON** key. Memory contents and mode setting are retained even when power is switched off.

1-2 The keyboard

Many of the calculator's keys are used to perform more than one function. The functions marked on the keyboard are color coded to help you find the one you need quickly and easily.

Shifted function	→	10^x
Primary function	→	log
Primary function	→	7
SD mode function	→	\bar{x}

Primary functions

These are the functions that are normally executed when you press the key.

Shifted functions

You can execute these functions by first pressing the **SHIFT** key, followed by the key that is assigned the shifted function you want to execute.

SD mode functions

You can execute these functions in the SD mode.

1-3 Modes

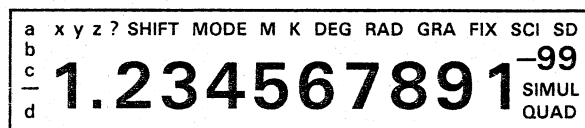
When using this calculator, it is necessary to select the proper mode to suit your calculation requirements. This can be done by using the **MODE** key in combination with the number keys. (Refer to plate below the display.)

- MODE** **0**: **SD is displayed.** Standard deviation calculation.
- MODE** **0**: **COMP mode.** General calculations, including function calculations.
- MODE** **1**: **QUAD is displayed.** Quadratic equation calculation.
- MODE** **2**: **SIMUL is displayed.** Simultaneous linear equation calculation (two unknowns).
- MODE** **3**: **SIMUL is displayed.** Simultaneous linear equation calculation (three unknowns).
- MODE** **4**: **DEG is displayed.** Specifies measurement in "degrees".
- MODE** **5**: **RAD is displayed.** Specifies measurement in "radians".
- MODE** **6**: **GRA is displayed.** Specifies measurement in "grads".
- MODE** **7**: **FIX is displayed.** Specifies number of decimal places from 0 to 9.
- MODE** **8**: **SCI is displayed.** Specifies number of significant digits 1 to 10.
- MODE** **9**: **Cancels "FIX" and "SCI" specifications.** This operation also changes the range of the exponent display (see page 7).

- You can use **MODE** **4** through **MODE** **6** in combination with the COMP Mode and SD Mode. The unit of angular measurement is retained when you switch power off.
- Make sure you press the **AC** key before making **MODE** **4** through **MODE** **6** settings.

1-4 Display symbols

Indicators appear on the display to show you the current status of the calculator.



- a, b, c, d:** Equation term indicators
- x, y, z:** Equation result indicators
- E- or -C-:** Error indicators
- SHIFT:** **SHIFT** key pressed
- MODE:** **MODE** key pressed
- M:** Independent memory indicator
- K:** Constant calculation indicator
- DEG or RAD or GRA:** Angular unit
- FIX:** Number of decimal places specified
- SCI:** Number of significant digits specified
- SD:** Standard deviation calculation
- SIMUL:** Simultaneous linear equation (2 unknowns or 3 unknowns) calculation mode
- QUAD:** Quadratic equation calculation mode

1-5 Exponential displays

During normal calculation, this calculator is capable of displaying up to 10 digits. Values that exceed this limit, however, are automatically displayed in exponential format. You can choose between 2 different types of exponential display formats.

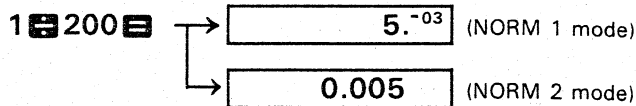
NORM 1 mode:

$$10^{-2} (0.01) > |x|, |x| \geq 10^{10}$$

NORM 2 mode:

$$10^{-9} (0.000000001) > |x|, |x| \geq 10^{10}$$

You can select between the NORM 1 and NORM 2 mode by pressing **MODE** **9**. There is no indication of which mode is currently in effect, but you can confirm the mode by performing the following calculation.



(All of the example in this manual show calculation results using the NORM 1 mode.)

How to interpret exponential format

1.2¹¹

$$\Rightarrow 1.2 \times 10^{11} \Rightarrow 120,000,000,000$$

1.2¹¹ indicates that the result is equivalent to 1.2×10^{11} . This means that you should move the decimal point in 1.2 eleven places to the right, since the exponent is positive. This results in the value 120,000,000,000.

1.2⁻⁰³

$$\Rightarrow 1.2 \times 10^{-3} \Rightarrow 0.0012$$

1.2⁻⁰³ indicates that the result is equivalent to 1.2×10^{-3} . This means that you should move the decimal point in 1.2 three places to the left, since the exponent is negative. This result in the value 0.0012.

*Entry can be made in scientific notation by using the **EXP** key after entering the mantissa.

EXAMPLE OPERATION READ-OUT

$$- 1.234567891 \times 10^{-3}$$

(= - 0.001234567891)

1 \square 234567891 \square $\frac{1}{x}$	-1.234567891
\square EXP	-1.234567891 ⁰⁰
3 \square $\frac{1}{x}$	-1.234567891 ⁻⁰³

1-6 Special display formats

Special display formats are used for the representation of fraction and sexagesimal values.

Fraction value display

456 \square 12 \square 23.

Display of $456 \frac{12}{23}$

Sexagesimal value display

12 \square 34 \square 56.78

Display of 12°34'56.78"

Before assuming a problem with your calculator...

If the result produced by the calculator is not what you expect or if an error occurs, perform the following operation to initialize the calculator.

1. **MODE** **0** (COMP mode)
2. **MODE** **4** (DEG mode)
3. **MODE** **9** (NORM mode)
4. Check the formula you are working with to confirm that it is correct.
5. Enter the correct modes to perform your calculation and try again.

2/ORDER OF OPERATIONS AND LEVELS

Operations are performed in the following order of precedence:

1. Functions
2. x^y , $x^{1/y}$, R→P, P→R
3. \times , \div
4. $+$, $-$

Operations with the same precedence are performed from left to right, with operations enclosed in parentheses performed first. If parentheses are nested, the operations enclosed in the innermost set of parentheses are performed first.

*Registers L₁ through L₆ are provided to store operations of lower precedence (including parenthetical operations). Since six registers are provided, calculations up to six levels can be retained.

*Since each level can contain up to three open parentheses, parentheses can be nested up to 18 times.

Example (4 levels, 5 nested parentheses)

Operation

2 \times ((((3 + 4 \times ((5 + 4 ())))))) \div 3 ()) ())
 1 level 1 level 1 level 1 level A

\div 5 ()) + 9 ()) =

Register contents at point A.

x	4
L ₁	(((5 +
L ₂	4 ×
L ₃	(((((3 +
L ₄	2 ×
L ₅	
L ₆	

3/CORRECTIONS

If you notice you've made a mistake when inputting a number (but you have not yet pressed an arithmetic operator key), just press **C** to clear the last value and then input it again.

In a series of calculations, you can correct errors in intermediate results by pressing **C** to clear the last calculation performed. You can then continue with the calculation.

If you want to change input of the $+$, $-$, \times , \div , $\frac{\square}{\square}$, or $\frac{\square}{\square}$ operator key, simply press the operator key you want to change to. In this case, the most recently pressed key operation is used, but the operation retains the order of precedence of the original operation you input.

4/OVERFLOW OR ERROR CHECK

An overflow or error is indicated and further calculation becomes impossible when the symbol "--E--" or "--E--" appears on the display. An overflow or error occurs when any of the following conditions occur.

- When a result (whether intermediate or final) or accumulated total in the memory is more than $\pm(9.999999999 \times 10^{99})$ ("--E--" sign appears).
- When function calculations are performed with a number exceeding the input range ("--E--" sign appears).
- When an unreasonable operation (such as an attempt to calculate \bar{x} and σn while $n=0$) is performed during statistical calculations ("--E--" sign appears).
- When a mathematically illegal operation (such as division by zero: $6 \div 0$) is performed ("--E--" sign appears).
- When the total number of levels of explicitly and/or implicitly nested parentheses exceeds 6, or when more than 18 pairs of parentheses are used ("--E--" sign appears).

Ex.) Pressing the $\frac{1}{x^2}$ key 18 times before inputting $2 \div 3 \times 3 \times$.

To release these overflow checks:

- a), b), c), d) Press the **AC** key.
- e) Press the **AC** key. Or press the **C** key and the intermediate result just before the overflow appears and the subsequent calculation can then be performed.

*If the result is within the range of $+(1 \times 10^{-99})$ to $-(1 \times 10^{-99})$, an error does not occur. Instead, the display shows all zeros.

5/POWER SUPPLY

The fx-95 powered by two AA size manganese dry batteries (R6P (SUM-3) or UM-3). The fx-500 powered by two G13 type (SR44 or LR44) batteries. As batteries power weakens, the characters on the display become dim and difficult to read. When this happens, replace the batteries as soon as possible.

Precautions!

Incorrectly using batteries can cause them to burst or leak, possibly damaging the interior of the unit. Note the following precautions.

- Be sure to replace the batteries at least once every two years, regardless of how much the calculator is used during that time. Old batteries may leak, seriously damage the interior of the calculator.
- The batteries that come installed in the calculator when you purchase it are for factory test purposes, and so they may not provide a full service life.
- All data stored in the memory of the calculator is lost when you replace the batteries. Be sure to make a note of any important data before you replace the battery.
- Always be sure to load the batteries in the correct directions.
- Never mix batteries of different types.
- Never mix old batteries and new ones.
- Never try to charge the batteries, take them apart, or allow them to become shorted. Keep batteries away from flame and direct heat at all times.
- Keep batteries out of the reach of small children. If swallowed, consult with your physician immediately.

To replace batteries

■fx-95

1. Press **OFF** to switch power off.
2. Remove the screws that hold the back cover in place, and then remove the cover.
3. Remove the old batteries.
4. Install new batteries with polarity in correct directions.
5. Replace the back cover and secure it in place with the screws.
6. Press **AC ON** to switch power on.

■ fx-500

1. Press **OFF** to switch power off.
2. Remove the screws that hold the back cover in place, and then remove the cover.
3. Remove the old batteries by turning the battery compartment face down and lightly tapping the calculator.
4. Wipe off the surfaces of new batteries with a soft, dry cloth, and install the batteries with polarity in correct directions.
5. Replace the back cover and secure it in place with the screws.
6. Press **AC** ON to switch power on.

Note

The calculator automatically resets its memory whenever batteries are removed for longer than two or three minutes. The following are the initial settings of the calculator whenever its memory is reset.

- COMP mode
- DEG mode
- NORM1 mode
- Memory cleared
- Input buffer cleared

Important!

If you allow battery power to drop too low, memory contents may become corrupted or lost completely. Be sure to replace the battery as soon as you notice the display becoming dim.

6/SPECIFICATIONS

BASIC OPERATIONS

4 basic calculations, constants for $+/-/\times/\div/x^y/x^{1/y}$, parenthesis calculations and memory calculations.

BUILT-IN FUNCTIONS

Trigonometric/inverse trigonometric functions (with angle in degrees, radians or grads), hyperbolic/inverse hyperbolic functions, common/natural logarithms, exponential functions (common antilogarithms, natural antilogarithms), powers, roots, square roots, cube roots, squares, reciprocals, factorials, conversion of coordinate system (R→P, P→R), random number, π , fractions and percentages.

STATISTICAL FUNCTIONS

Population standard deviation, sample standard deviation, arithmetic mean, sum of square value, sum of value and number of data.

EQUATION CALCULATION FUNCTIONS

Quadratic equations
Simultaneous linear equations (2/3 unknowns)

CAPACITY

Entry/basic calculations

10-digit mantissa, or 10-digit mantissa plus 2-digit exponent up to $10^{\pm 99}$.

*Output accuracy

- ± 1 in the 10th digit (COMP/SD mode)
- ± 1 in the 6th digit (SIMUL/QUAD mode)

Functions	Input range	
$\sin x$ $\cos x$ $\tan x$	(DEG) $ x < 9 \times 10^{99}$ (RAD) $ x < 5 \times 10^7 \pi \text{rad}$ (GRA) $ x < 1 \times 10^{10} \text{grad}$	However, for $\tan x$: $ x \neq 90(2n+1)$: DEG $ x \neq \pi/2(2n+1)$: RAD $ x \neq 100(2n+1)$: GRA
$\sin^{-1}x$ $\cos^{-1}x$	$ x \leq 1$	
\tan^{-1}	$ x < 1 \times 10^{100}$	

Functions	Input range	
sinh x cosh x	$ x \leq 230.2585092$	Note: For sinh and tanh, when $x=0$, errors are cumulative and accuracy is affected at a certain point.
tanh x		
$\sinh^{-1}x$	$ x < 5 \times 10^{99}$	
$\cosh^{-1}x$	$1 \leq x < 5 \times 10^{99}$	
$\tanh^{-1}x$	$ x < 1$	
log x / ln x	$1 \times 10^{-99} \leq x < 1 \times 10^{100}$	
10^x	$-1 \times 10^{100} < x < 100$	
e^x	$-1 \times 10^{100} < x \leq 230.2585092$	
\sqrt{x}	$0 \leq x < 1 \times 10^{100}$	
x^2	$ x < 1 \times 10^{50}$	
$1/x$	$ x < 1 \times 10^{100}, x \neq 0$	
$\sqrt[3]{x}$	$ x < 1 \times 10^{100}$	
$x!$	$0 \leq x \leq 69$ (x is an integer)	
Pol (x, y)	$\sqrt{x^2 + y^2} < 1 \times 10^{100}$	
Rec (r, θ)	$0 \leq r < 1 \times 10^{100}$ (DEG) $ \theta < 9 \times 10^{99}$ (RAD) $ \theta < 5 \times 10^7 \pi \text{rad}$ (GRA) $ \theta < 1 \times 10^{10} \text{grad}$	However, for tan θ : $ \theta \neq 90(2n+1)$: DEG $ \theta \neq \pi/2(2n+1)$: RAD $ \theta \neq 100(2n+1)$: GRA
$a^b \cdot c$	$ a , b, c < 1 \times 10^{100}, 0 \leq b, c$	
$\frac{a}{b}$	$ x \leq 2.777777777 \times 10^{96}$	
x^y	$x > 0: -1 \times 10^{100} < y \log x < 100$ $x = 0: y > 0$ $x < 0: y = n, \frac{1}{2n+1}$ (n is an integer) However; $-1 \times 10^{100} < y \log x < 100$	

Functions	Input range
$x^{1/y}$	$x > 0: y \neq 0$ $-1 \times 10^{100} < \frac{1}{y} \log x < 100$ $x = 0: y > 0$ $x < 0: y = 2n+1, \frac{1}{n}$ ($n \neq 0, n$ is an integer) However; $-1 \times 10^{100} < \frac{1}{y} \log x < 100$
$a^{b/c}$	•Results Total of integer, numerator and denominator must be within 10 digits (includes division marks). •Input Result displayed as fraction for integer when integer, numerator and denominator are less than 1×10^{10} .
SD	$ x < 1 \times 10^{50}$ $ n < 1 \times 10^{100}$ $x\sigma n, \bar{x}: n \neq 0$ $x\sigma n-1: n \neq 0, 1$

*Errors are cumulative with such internal continuous calculations as $x^x, x^{1/x}, x!, \sqrt[3]{x}$ so accuracy may be adversely affected.

DECIMAL POINT

Full floating with underflow.

EXPONENTIAL DISPLAY

Norm 1 - $10^{-2} > |x|, |x| \geq 10^{10}$

Norm 2 - $10^{-9} > |x|, |x| \geq 10^{10}$

READ-OUT

- Liquid crystal display, suppressing unnecessary 0's (zeros).

POWER SOURCE

•fx-95

Power source: Two AA size manganese dry batteries (UM-3 or R6P (SUM-3))

Battery life: The unit gives approximately 9,000 hours continuous operation on type UM-3 (11,000 hours on type R6P (SUM-3)).

Power consumption: 0.0004W

•fx-500

Power source: Two alkaline-manganese batteries (LR44 or SR44 (G-13))

Battery life: The unit gives approximately 700 hours continuous operation on type LR44 (1,800 hours on type SR44).

Power consumption: 0.0004W

AMBIENT TEMPERATURE RANGE

0°C - 40°C (32°F - 104°F)

DIMENSIONS

•fx-95

23.6mmH × 78mmW × 158.5mmD
(⁷/₈"H × 3¹/₈"W × 6¹/₄"D)

•fx-500

9.5mmH × 73mmW × 140mmD
(³/₈"H × 2⁷/₈"W × 5¹/₂"D)

WEIGHT

•fx-95 150g (5.3 oz) including batteries

•fx-500 64g (2.3 oz) including batteries

Precauciones en la manipulación

- Esta calculadora se fabrica con componentes electrónicos de precisión. Nunca trate de desarmarla.
- Evite dejarla caer y tampoco la someta a ningún fuerte impacto.
- No guarde ni deje la calculadora en áreas expuestas a alta temperatura, humedad o mucho polvo. Cuando se la expone a bajas temperaturas, la calculadora requerirá más tiempo para la presentación de las respuestas y la presentación puede aun llegar a fallar. La presentación volverá a la normalidad una vez que se retorna a una temperatura normal.
- La presentación se pondrá en blanco y las teclas no operarán durante los cálculos. Cuando está operando el teclado, cerciórese de observar la presentación para cerciorarse de que todas las operaciones se están realizando correctamente.
- No deje pilas agotadas en el compartimiento de pilas. Pueden producir fugas del electrolito y dañar la unidad.
- Para la limpieza de la unidad, evite usar líquidos volátiles tales como diluyentes o bencinas. Limpie con un paño seco y suave, o con un paño que haya sido humedecido en una solución de detergente neutro y posteriormente estrujado.
- En ningún caso el fabricante y sus suministradores asumirán responsabilidades ante Ud. o cualquier otra persona por cualquier daño, gastos, pérdida de lucros, pérdida de ahorros o cualquier otro daño ocasionado por la pérdida de datos ocasionados por una falla en el funcionamiento, reparación o un cambio de pilas. El usuario debe preparar registros físicos de los datos importantes, para protegerse contra la pérdida de tales datos.
- Nunca descarte las pilas, panel de cristal líquido u otro componente incinerándolos.
- Antes de suponer una falla de funcionamiento de la unidad, vuelva a leer cuidadosamente este manual y asegúrese de que el problema no se debe a insuficiente carga de la pila o errores de operación.

FUENTE DE ALIMENTACION

•fx-95

Alimentación: Dos pilas secas de manganeso de tamaño AA (UM-3 o R6P (SUM-3))

Duración de pila: La unidad proporciona aproximadamente 9.000 horas continuas de operación con las pilas de tipo UM-3 (11.000 horas con las pilas de tipo R6P (SUM-3)).

Consumo de energía: 0,0004W

•fx-500

Alimentación: Dos pilas alcalina de manganeso (LR44 o SR44 (G-13)).

Duración de pila: La unidad proporciona aproximadamente 700 horas continuas de operación con las pilas de tipo LR44 (1.800 horas con las pilas de tipo SR44).

Consumo de energía: 0,0004W

TEMPERATURA AMBIENTE

0°C – 40°C

DIMENSIONES

•fx-95

23,6mmAl. × 78mmAn. × 158,5mmPr.

•fx-500

9,5mmAl. × 73mmAn. × 140mmPr.

PESO

•fx-95 150 g, incluyendo las pilas

•fx-500 64 g, incluyendo las pilas

7/NORMAL CALCULATIONS

*You can perform normal calculations in the COMP mode (MODE 0).

*Calculations can be performed in the same sequence as the written formula (true algebraic logic).

*Nesting of up to 18 parentheses at 6 levels is allowed.

7/CALCULOS NORMALES

*Se pueden realizar cálculos normales en el modo COMP (MODE 0).

*Los cálculos se pueden hacer en la misma secuencia de la fórmula introducida (lógica algebraica verdadera).

*Se permite el establecimiento de hasta 18 parentesis en 6 niveles.

7-1 Four basic calculations (incl. parenthesis calculations)

7-1 Cuatro cálculos básicos (incluidos los cálculos con paréntesis)

EXAMPLE EJEMPLO	OPERATION OPERACION	READ-OUT LECTURA
$23 + 4.5 - 53 =$	23 + 4.5 - 53 =	-25.5
$56 \times (-12) \div (-2.5) =$	56 × 12 ÷ 2.5 =	268.8
$2 \div 3 \times (1 \times 10^{20}) =$	2 ÷ 3 × 1 EXP 20 =	6.666666667 19

$$(2 + 3) \times 10^2 =$$

$$\boxed{2} \boxed{+} \boxed{3} \boxed{)} \boxed{1} \boxed{\text{EXP}} \boxed{2} \boxed{=} \boxed{500.}$$

*The correct answer cannot be derived by entering $\boxed{2} \boxed{+} \boxed{3} \boxed{\text{EXP}} \boxed{2}$. Be sure to enter $\boxed{)} \boxed{1}$ between $\boxed{)} \boxed{\text{EXP}}$ in the above example.

*La respuesta correcta no puede derivarse ingresando $\boxed{2} \boxed{+} \boxed{3} \boxed{\text{EXP}} \boxed{2}$. Cerci6rese de ingresar $\boxed{)} \boxed{1}$ entre el $\boxed{)} \boxed{\text{EXP}}$ y $\boxed{)} \boxed{\text{EXP}}$ en el ejemplo anterior.

$$7 \times 8 - 4 \times 5 = (56 - 20) =$$

$$\boxed{7} \boxed{\times} \boxed{8} \boxed{-} \boxed{4} \boxed{\times} \boxed{5} \boxed{=} \boxed{36.}$$

$$1 + 2 - 3 \times 4 \div 5 + 6 =$$

$$\boxed{1} \boxed{+} \boxed{2} \boxed{-} \boxed{3} \boxed{\times} \boxed{4} \boxed{\div} \boxed{5} \boxed{+} \boxed{6} \boxed{=} \boxed{6.6}$$

$$\frac{6}{4 \times 5} =$$

$$\boxed{6} \boxed{\div} \boxed{4} \boxed{\times} \boxed{5} \boxed{=} \boxed{0.3}$$

*Be sure to press $\boxed{\text{AC}}$ before starting any operation that involves the $\boxed{)} \boxed{\text{EXP}}$ key. This is especially true right after you finish performing calculations that are finalized without pressing $\boxed{=}$ (such as scientific function calculations).

*The number of levels of the $\boxed{)} \boxed{\text{EXP}}$ key can be displayed.

*Cerci6rese de presionar $\boxed{\text{AC}}$ antes de comenzar cualquier operaci6n que relacione la tecla $\boxed{)} \boxed{\text{EXP}}$. Esto es especialmente cierto luego de la realizaci6n de c6lculos, que son finalizados sin presionar la tecla $\boxed{=}$ (tal como los c6lculos de funciones cient6ficas).

*El n6mero de niveles de la tecla $\boxed{)} \boxed{\text{EXP}}$ puede presentarse en pantalla.

$$2 \times \{7 + 6 \times (5 + 4)\} =$$

$\boxed{2} \boxed{\times} \boxed{)} \boxed{01}$	$\boxed{0.}$
$\boxed{7} \boxed{+} \boxed{6} \boxed{\times} \boxed{)} \boxed{02}$	$\boxed{0.}$
$\boxed{5} \boxed{+} \boxed{4} \boxed{)} \boxed{)} \boxed{=}$	$\boxed{122.}$

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*It is unnecessary to press the $\boxed{)} \boxed{\text{EXP}}$ key before the $\boxed{=}$ key.

*Es innecesario presionar la tecla $\boxed{)} \boxed{\text{EXP}}$ antes de la tecla $\boxed{=}$.

$$10 - \{2 + 7 \times (3 + 6)\} =$$

$$\boxed{10} \boxed{-} \boxed{)} \boxed{2} \boxed{+} \boxed{7} \boxed{\times} \boxed{)} \boxed{3} \boxed{+} \boxed{6} \boxed{)} \boxed{=}$$

Another operation:
Otra operaci6n:

$$\boxed{10} \boxed{-} \boxed{)} \boxed{2} \boxed{+} \boxed{7} \boxed{\times} \boxed{)} \boxed{3} \boxed{+} \boxed{6} \boxed{)} \boxed{)} \boxed{=}$$

7-2 Constant calculations

*The "K" sign appears when a number is set as a constant.

7-2 C6lculos con constantes

*El signo "K" aparece cuando se establece una constante.

$$12 + 23 =$$

$$(-78) + 23 =$$

$\boxed{23} \boxed{+} \boxed{12} \boxed{=}$	\boxed{K} $\boxed{35.}$
$\boxed{78} \boxed{-} \boxed{=}$	\boxed{K} $\boxed{-55.}$

$$2.3 \times 12 =$$

$$(-4.56) \times 12 =$$

$\boxed{12} \boxed{\times} \boxed{2.3} \boxed{=}$	\boxed{K} $\boxed{27.6}$
$\boxed{4.56} \boxed{-} \boxed{=}$	\boxed{K} $\boxed{-54.72}$

$$78 \div 9.6 =$$

$$45 \div 9.6 =$$

$\boxed{9} \boxed{\div} \boxed{78} \boxed{=}$	\boxed{K} $\boxed{8.125}$
$\boxed{45} \boxed{\div} \boxed{=}$	\boxed{K} $\boxed{4.6875}$

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$$17 + 17 + 17 + 17 =$$

17 $\oplus \oplus \oplus \oplus \oplus$	K	34.
\oplus	K	51.
\oplus	K	68.

$$1.7^2 =$$

$$1.7^3 =$$

$$1.7^4 =$$

1 \cdot 7 $\times \times \times \oplus$	K	2.89
\oplus	K	4.913
\oplus	K	8.3521

$$3 \times 6 \times 4 =$$

$$3 \times 6 \times (-5) =$$

3 \times 6 $\times \times$	K	18.
4 \oplus	K	72.
5 $\frac{+}{-}$ \oplus	K	-90.

$$\frac{56}{4 \times (2 + 3)} =$$

$$\frac{23}{4 \times (2 + 3)} =$$

4 \times ($\frac{+}{-}$) 2 \oplus 3 ($\frac{+}{-}$) $\oplus \oplus$	K	20.
56 \oplus	K	2.8
23 \oplus	K	1.15

7-3 Memory calculations

- *Be careful not to set the function mode at "SD" when performing memory calculations.
- *When a new number is entered into the memory by \oplus (Min) key, the previous number stored is automatically cleared and the new number is put in the memory.
- *To clear the contents press \oplus (Min) or $\text{AC} \oplus$ (Min) in sequence.
- *The "M" sign appears when a number is stored in the memory.

7-3 Cálculos con memoria

- *Cuidar de no ajustar el modo de función en la posición "SD" cuando se realicen cálculos con memoria.
- *Al introducir un número en la memoria por medio de la tecla \oplus (Min), el número almacenado anteriormente es borrado automáticamente y el nuevo número es introducido en la memoria.
- *Para borrar el contenido, presionar \oplus (Min) ó $\text{AC} \oplus$ (Min) en esa secuencia.
- *El signo "M" aparece cada vez que se almacena un número en la memoria.

$$53 + 6 =$$

$$23 - 8 =$$

$$56 \times 2 =$$

$$+) 99 \div 4 =$$

210.75

53 \oplus 6 \oplus (Min)	M	59.
23 \ominus 8 \oplus (M+)	M	15.
56 \times 2 \oplus (M+)	M	112.
99 \div 4 \oplus (M+)	M	24.75
MR	M	210.75

$$7 + 7 - 7 + (2 \times 3) + (2 \times 3) + (2 \times 3) - (2 \times 3) =$$

7 (Min) (M+) (SHIFT) (M-) 2 \times 3 (M+) (M+) (M+)	M	19.
(SHIFT) (M-) (MR)		

$$\begin{array}{r} 12 \times 3 = \\ -) 45 \times 3 = \\ \hline 78 \times 3 = \end{array}$$

135	
3 \times 12 \equiv Min	M K 36.
45 \equiv SHIFT \equiv M-	M K 135.
78 \equiv M+	M K 234.
\equiv MR	M K 135.

*When the \equiv key is pressed after the \equiv key, the displayed number is exchanged with the content of the memory.

*Cuando se presiona la tecla \equiv luego de la tecla \equiv , el número en pantalla es intercambiado con el contenido de la memoria.

$$\frac{(3+6) \times (2+5)}{\{2 \times (3+4)\} + \{6 \times (7+8)\}} =$$

\equiv 3 \equiv 6 \equiv \times \equiv 2 \equiv 5 \equiv \equiv Min	M 63.
---	-------

2 \times \equiv 3 \equiv 4 \equiv \equiv 6 \times \equiv 7 \equiv 8 \equiv \equiv \equiv MR \equiv	M 104. M 0.6057692308
--	--------------------------

7-4 Fraction calculations

*Total of integer, numerator and denominator must be within 10 digits (includes division marks).

*A fraction can be transferred to the memory.

*When a fraction is extracted, the answer is displayed as a decimal.

*A press of \equiv key after the \equiv key converts the fraction answer to the decimal scale.

7-4 Cálculos de fracciones

*Total de números enteros, numerador y denominador deben estar dentro de 10 dígitos (incluyendo las marcas de división).

*Una fracción puede ser transferida a la memoria.

*Cuando se extrae una fracción, la respuesta es presentada como decimal.

*La pulsación la tecla \equiv después de la tecla \equiv , convierte las fracciones a la escala decimal.

$$4\frac{5}{6} \times (3\frac{1}{4} + 1\frac{2}{3}) \div 7\frac{8}{9} =$$

4 \equiv 5 \equiv 6 \times \equiv 3 \equiv 4 \equiv 1 \equiv 2 \equiv 3 \equiv 7 \equiv 8 \equiv 9 \equiv	3 1 7 1 5 6 8.
\equiv	3.012323944
\equiv	3 1 7 1 5 6 8.

$$2\frac{4}{5} + \frac{3}{4} - 1\frac{1}{2} =$$

2 \equiv 4 \equiv 5 \equiv 3 \equiv 4 \equiv 1 \equiv 1 \equiv 2 \equiv	3 1 1 1 2 0.
\equiv	3.55
\equiv	2 1 1 2 0.

$$(1.5 \times 10^7) - \{(2.5 \times 10^6) \times \frac{3}{100}\} =$$

1 \equiv 5 \equiv 7 \equiv 2 \equiv 5 \equiv 6 \times 3 \equiv 100 \equiv	14925000.
---	-----------

*During a fraction calculation, a figure is reduced to the lowest terms by pressing a function command key (\equiv , \times , \equiv or \equiv) or the \equiv key if the figure is reducible.

*Durante un cálculo de fracción, una cifra es reducida a los términos mínimos al presionar una tecla de comando de función (\equiv , \times , \equiv ó \equiv) o la tecla \equiv si la cifra es reducible.

$$3\frac{456}{78} = 8\frac{11}{13} \quad \begin{array}{l} \text{(Reduction)} \\ \text{(Reducción)} \end{array}$$

$$3 \text{ [a%]} 456 \text{ [a%]} 78 \text{ []} \boxed{3 \text{ J } 456 \text{ J } 78.}$$

$$\text{[]} \boxed{8 \text{ J } 11 \text{ J } 13.}$$

*By pressing **SHIFT** **d/c** continuously, the displayed value will be converted to the improper fraction.

*Presionando las teclas **SHIFT** **d/c** continuamente, el valor presentado será convertido a la fracción impropia.

Continuing from above
Continuación desde arriba

$$\text{[SHIFT]} \text{ [d/c]} \boxed{115 \text{ J } 13.}$$

$$\frac{12}{45} - \frac{32}{56} = \quad 12 \text{ [a%]} 45 \text{ []} \boxed{4 \text{ J } 15.}$$

$$\quad 32 \text{ [a%]} 56 \text{ []} \boxed{-32 \text{ J } 105.}$$

*The answer in a calculation performed between a fraction and a decimal is displayed as a decimal.

*La respuesta de un cálculo realizado entre una fracción y un decimal aparece como decimal.

$$\frac{41}{52} \times 78.9 = \quad 41 \text{ [a%]} 52 \text{ [x]} \boxed{41 \text{ J } 52.}$$

$$\quad 78 \text{ [] } 9 \text{ []} \boxed{62.20961538}$$

7-5 Percentage calculations

7-5 Cálculos con porcentajes

12% of 1500
12% de 1500

$$1500 \text{ [x]} 12 \text{ [SHIFT]} \text{ [%]} \boxed{180.}$$

Percentage of 660 against 880
Porcentaje de 660 contra 880

$$660 \text{ [] } 880 \text{ [SHIFT]} \text{ [%]} \boxed{75.}$$

15% add-on of 2500
15% de aumento de 2500

$$2500 \text{ [x]} 15 \text{ [SHIFT]} \text{ [%]} \text{ [] } \boxed{2875.}$$

25% discount of 3500
25% de descuento de 3500

$$3500 \text{ [x]} 25 \text{ [SHIFT]} \text{ [%]} \text{ [] } \boxed{2625.}$$

300cc is added to a solution of 500cc. What is the percent of the new volume to the initial one?

Se agregan 300cc a una solución de 500cc. ¿Cuál es el porcentaje del nuevo volumen con respecto al primero?

$$300 \text{ [] } 500 \text{ [SHIFT]} \text{ [%]} \boxed{160.}$$

(%)

If you made \$80 last week and \$100 this week, what is the percent increase?

Si Ud. ganó \$80 la semana pasada y \$100 esta semana. ¿Cuál es el porcentaje de suba?

$$100 \text{ [] } 80 \text{ [SHIFT]} \text{ [%]} \boxed{25.}$$

(%)

12% of 1200
18% of 1200
23% of 1200

12% de 1200
18% de 1200
23% de 1200

$$1200 \text{ [x]} 12 \text{ [SHIFT]} \text{ [%]} \boxed{144.}$$

$$18 \text{ [SHIFT]} \text{ [%]} \boxed{216.}$$

$$23 \text{ [SHIFT]} \text{ [%]} \boxed{276.}$$

26% of 2200
 26% of 3300
 26% of 3800

26% de 2200
 26% de 3300
 26% de 3800

26 \times \times 2200 SHIFT $\%$	^K 572.
3300 SHIFT $\%$	^K 858.
3800 SHIFT $\%$	^K 988.

Percentage of 30 against 192
 Percentage of 156 against 192

Porcentaje de 30 contra 192
 Porcentaje de 156 contra 192

192 SHIFT $\%$ 30 SHIFT $\%$	^K 15.625
156 SHIFT $\%$	^K 81.25

- * 600 grams was added to 1200 grams. What percent is the total to the initial weight?
- * 510 grams was added to 1200 grams. What percent is the total to the initial weight?
- * Se agregan 600 gramos a 1200 gramos. ¿Cuál es el porcentaje del peso total con respecto al inicial?
- * Se agregan 510 gramos a 1200 gramos. ¿Cuál es el porcentaje del peso total con respecto al inicial?

1200 SHIFT $\%$ 600 SHIFT $\%$	^K 150.
510 SHIFT $\%$	^K 142.5

- * How many percent down is 138 grams to 150 grams?
- * How many percent down is 129 grams to 150 grams?
- * ¿Cuál es el porcentaje de disminución de 138 gramos con respecto a 150 gramos?
- * ¿Cuál es el porcentaje de disminución de 129 gramos con respecto a 150 gramos?

150 SHIFT $\%$ 138 SHIFT $\%$

129 SHIFT $\%$

^K	-8.
^K	-14.

8/FUNCTION CALCULATIONS

Scientific function keys can be utilized as subroutines of four basic calculations (including parenthesis calculations).

* This calculator computes as $\pi = 3.141592654$ and $e = 2.718281828$.

* In some scientific functions, the display disappears momentarily while complicated formulas are being processed. So do not enter numerals or press the function key until the previous answer is displayed.

* For each input range of the scientific functions, see page 15.

8/CALCULOS DE FUNCIONES

Las teclas de las funciones científicas pueden ser empleadas como subrutinas en cualquiera de los cuatro cálculos básicos (incluyendo los cálculos entre paréntesis).

* Esta calculadora computa como $\pi = 3,141592654$ y $e = 2,718281828$.

* En algunas de las funciones científicas, la presentación en pantalla desaparece por algún instante mientras se están procesando fórmulas complejas, de manera que no se deben entrar numerales o presionar otras teclas de funciones hasta que aparezca la respuesta previa.

* Remitirse a la página 33 para cada gama de entrada de las funciones científicas.

8-1 Sexagesimal \leftrightarrow Decimal conversion

The DMS key converts the sexagesimal figure (degree, minute and second) to decimal notation. Operation of SHIFT DMS converts the decimal notation to the sexagesimal notation.

8-1 Conversión sexagesimal ↔ decimal

La tecla \square convierte una cifra sexagesimal (grados, minutos y segundos) a notación decimal. Al operar \square se convierte la notación decimal en sexagesimal.

$$14^\circ 25' 36'' =$$

14 \square	14.
25 \square	14.41666667
36 \square	14.42666667
\square	$14^\circ 25' 36''$

8-2 Trigonometric/Inverse trigonometric functions

8-2 Funciones trigonométricas y trigonométricas inversas

$$\sin\left(\frac{\pi}{6}\text{ rad}\right) =$$

“RAD” (MODE 5)

π \square 6 \square sin	0.5
---------------------------------	-----

$$\cos 63^\circ 52' 41'' =$$

“DEG” (MODE 4)

63 \square 52 \square 41 \square	63.87805556
\square cos	0.440283084

$$\tan(-35\text{ gra}) =$$

“GRA” (MODE 6) 35 \square tan

	-0.612800788
--	--------------

$$2 \cdot \sin 45^\circ \times \cos 65^\circ =$$

“DEG”

2 \square 45 \square sin \square 65 \square cos \square	0.597672477
---	-------------

$$\cot 30^\circ = \frac{1}{\tan 30^\circ} =$$

“DEG” 30 \square tan \square \square

	1.732050808
--	-------------

$$\sec\left(\frac{\pi}{3}\text{ rad}\right) = \frac{1}{\cos\left(\frac{\pi}{3}\text{ rad}\right)} =$$

“RAD” π \square 3 \square cos \square \square

	2.
--	----

$$\operatorname{cosec} 30^\circ = \frac{1}{\sin 30^\circ} =$$

“DEG” 30 \square sin \square \square

	2.
--	----

$$\cos^{-1} \frac{\sqrt{2}}{2} =$$

“RAD” 2 \square \square 2 \square \square \square cos \square

	0.785398163
--	-------------

$$\tan^{-1} 0.6104 =$$

“DEG” 0.6104 \square \square tan \square

	31.39989118
	$31^\circ 23' 59.61''$

8-3 Hyperbolic functions and inverse hyperbolic functions

8-3 Funciones hiperbólicas y funciones hiperbólicas inversas

$$\sinh 3.6 =$$

3 \square 6 \square hyp \square sin

	18.28545536
--	-------------

$$\tanh 2.5 =$$

2 \square 5 \square hyp \square tan

	0.986614298
--	-------------

$$\cosh 1.5 - \sinh 1.5 =$$

1	5	Min	hyp	cos	=	2.352409615
		MR	hyp	sin	=	0.22313016
				ln	=	-1.5

$$\sinh^{-1} 30 = 30 \text{ [SHIFT] [hyp] [sin]} = 4.094622224$$

Solve $\tanh 4x = 0.88$.
Solucionar $\tanh 4x = 0,88$.

$$x = \frac{\tanh^{-1} 0.88}{4} =$$

0	88	[SHIFT]	[hyp]	[tan]	=	4	=	0.343941914
---	----	---------	-------	-------	---	---	---	-------------

8-4 Common & Natural logarithms / Exponentiations (Common antilogarithms, Natural antilogarithms, Powers and Roots)

8-4 Logaritmos comunes y naturales / exponenciaciones (Antilogaritmos comunes, Antilogaritmos naturales, Potencias y Raíces)

$$\log 1.23 (= \log_{10} 1.23) = 1 \text{ [.] } 23 \text{ [log]} = 0.089905111$$

Solve $4^x = 64$.
Solucionar $4^x = 64$.

$$x \cdot \log 4 = \log 64$$

$$x = \frac{\log 64}{\log 4}$$

64	[log]	=	4	[log]	=	3.
----	-------	---	---	-------	---	----

$$\ln 90 (= \log_e 90) =$$

90	[ln]	=	4.49980967
----	------	---	------------

$$\log 456 \div \ln 456 =$$

456	[Min]	[log]	=	MR	[ln]	=	0.434294481
-----	-------	-------	---	----	------	---	-------------

$$10^{1.23} = 1 \text{ [.] } 23 \text{ [SHIFT] [10^x]} = 16.98243652$$

(To obtain the anti-logarithm of common logarithm 1.23)
(Para obtener el antilogaritmo del logaritmo común 1,23)

$$e^{4.5} = 4 \text{ [.] } 5 \text{ [SHIFT] [e^x]} = 90.0171313$$

(To obtain the anti-logarithm of natural logarithm 4.5)
(Para obtener el antilogaritmo del logaritmo natural 4,5)

$$10^{0.4} + 5 \cdot e^{-3} =$$

0	4	[SHIFT]	[10^x]	+	5	[x]	3	[1/x]	=	2.760821773
---	---	---------	--------	---	---	-----	---	-------	---	-------------

$$5.6^{2.3} =$$

5	6	[SHIFT]	[x^y]	2	.	3	=	52.58143837
---	---	---------	-------	---	---	---	---	-------------

$$123^{1/7} (= \sqrt[7]{123}) =$$

123	[SHIFT]	[x^y]	7	=	1.988647795
-----	---------	-------	---	---	-------------

$$4^{2.5} =$$

$$0.16^{2.5} =$$

$$9^{2.5} =$$

2	.	5	[SHIFT]	[x^y]	[SHIFT]	[x^y]	4	=	32.
0	.	16	[SHIFT]	[x^y]	9	=	0.01024		
								243.	

$(78 - 23)^{-12} =$

$\boxed{1} \boxed{78} \boxed{-} \boxed{23} \boxed{=} \boxed{12} \boxed{1/x^y} \boxed{=} \boxed{1.30511829^{-21}}$

$3^{12} + e^{10} =$

$\boxed{3} \boxed{=} \boxed{12} \boxed{=} \boxed{10} \boxed{=} \boxed{e^x} \boxed{=} \boxed{553467.4658}$

$\log \sin 40^\circ + \log \cos 35^\circ =$

“DEG”
 $\boxed{40} \boxed{=} \boxed{\sin} \boxed{=} \boxed{+} \boxed{35} \boxed{=} \boxed{\cos} \boxed{=} \boxed{\log} \boxed{=} \boxed{-0.278567983}$
 $\boxed{\log} \boxed{=} \boxed{10^x} \boxed{=} \boxed{0.526540784}$

(The antilogarithm 0.526540784)
 (El antilogaritmo 0,526540784)

$15^{1/5} + 25^{1/6} + 35^{1/7} =$

$\boxed{15} \boxed{=} \boxed{5} \boxed{=} \boxed{25} \boxed{=} \boxed{6} \boxed{=} \boxed{+} \boxed{35} \boxed{=} \boxed{7} \boxed{=} \boxed{5.090557037}$

8-5 Square roots, Cube roots, Squares, Reciprocals & Factorials

8-5 Raíces cuadradas, Raíces cúbicas, Cuadrados, Recíprocos y Factoriales

$\sqrt{2} + \sqrt{3} \times \sqrt{5} =$

$\boxed{2} \boxed{=} \boxed{+} \boxed{3} \boxed{=} \boxed{\times} \boxed{5} \boxed{=} \boxed{5.287196909}$

$\sqrt[3]{5} + \sqrt[3]{-27} =$

$\boxed{5} \boxed{=} \boxed{=} \boxed{+} \boxed{27} \boxed{=} \boxed{-} \boxed{-1.290024053}$

$123 + 30^2 =$

$\boxed{123} \boxed{=} \boxed{30} \boxed{=} \boxed{=} \boxed{1023.}$

$\frac{1}{3 - \frac{1}{4}} =$

$\boxed{3} \boxed{=} \boxed{=} \boxed{4} \boxed{=} \boxed{=} \boxed{=} \boxed{12.}$

$8! (= 1 \times 2 \times 3 \times \dots \times 7 \times 8) =$

$\boxed{8} \boxed{=} \boxed{=} \boxed{40320.}$

8-6 Miscellaneous functions (FIX, SCI, NORM, RND, RAN #, ENG)

8-6 Funciones varias (FIX, SCI, NORM, RND, RAN #, ENG)

$1.234 + 1.234 =$

“FIX2” (MODE 7 2)

$\boxed{1} \boxed{=} \boxed{234} \boxed{+}$	FIX 1.23
$\boxed{1} \boxed{=} \boxed{234} \boxed{+}$	FIX 2.47
MODE 9	2.468

“FIX2”

$\boxed{1} \boxed{=} \boxed{234} \boxed{=} \boxed{RND} \boxed{+}$	FIX 1.23
$\boxed{1} \boxed{=} \boxed{234} \boxed{=} \boxed{RND} \boxed{+}$	FIX 2.46
MODE 9	2.46

$1 \div 3 + 1 \div 3 =$

“SCI2” (MODE 8 2)

$\boxed{1} \boxed{=} \boxed{=} \boxed{3} \boxed{=} \boxed{+}$	SCI 3.3-01
$\boxed{1} \boxed{=} \boxed{=} \boxed{3} \boxed{=} \boxed{+}$	SCI 6.7-01
MODE 9	0.666666666

"SCI2"

$\text{[1] [3] [SHIFT] [RND] [=]}$	SCI 3.3 ⁻⁰¹
$\text{[1] [3] [SHIFT] [RND] [=]}$	SCI 6.6 ⁻⁰¹
[MODE] [9]	0.66

$$1 \div 1000 = 0.001$$

$$= 1 \times 10^{-3}$$

(Norm 1) [1] [1000] [=]	1. ⁻⁰³
(Norm 2) [MODE] [9]	0.001

$$123\text{m} \times 456$$

$$= 56088\text{m}$$

$$= 56.088\text{km}$$

$\text{[123] [x] [456] [=]}$	56088.
[ENG]	56.088 03

$$78\text{g} \times 0.96$$

$$= 74.88\text{g}$$

$$= 0.07488\text{kg}$$

$\text{[78] [x] [0.96] [=]}$	74.88
[SHIFT] [ENG]	0.07488 03

Generate a random number between 0.000 and 0.999.
 Generar un número al azar entre 0,000 y 0,999.

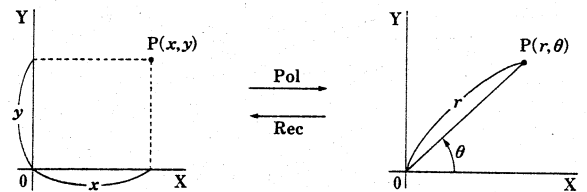
[SHIFT] [RAN#]	0.570
-------------------------	-------

(Example) (Ejemplo)

8-7 Coordinate transformation

8-7 Transformación de coordenadas

- Rectangular coordinates
- Coordenadas rectangulares
- Polar coordinates
- Coordenadas polares



• With polar coordinates, θ can be calculated within a range of $-180^\circ < \theta \leq 180^\circ$. (Calculation range is the same with radians or grads.)

• Con las coordenadas polares, θ puede calcularse dentro de una gama de $-180^\circ < \theta \leq 180^\circ$. (La gama de cálculo es la misma tanto con radianes como con grados.)

If $x = 14$ and $y = 20.7$, what are r and θ ?

Si $x = 14$ e $y = 20,7$ ¿cómo son r y θ ?

"DEG"

$\text{[14] [SHIFT] [R→P] [20] [.] [7] [=]}$	24.98979792
--	-------------

(r)

(Continuing) $\text{[SHIFT] [x→y] [SHIFT] [2nd] [F1]}$	55 [□] 55 [□] 42.2
--	--------------------------------------

(Continuando) (θ)

$$\sigma_{n-1} = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}} = \sqrt{\frac{\sum x^2 - (\sum x)^2/n}{n-1}}$$

Using sample data for a population to estimate the standard deviation for the population.

Uso de los datos de muestra de una población para estimar la desviación estándar para la población.

- Mean
- Media

$$\bar{x} = \frac{\sum_{i=1}^n x_i}{n} = \frac{\sum x}{n}$$

Ex.)

Find σ_{n-1} , σ_n , \bar{x} , n , $\sum x$ and $\sum x^2$ based on the data: 55, 54, 51, 55, 53, 53, 54, 52.

Ej.)

Encontrar σ_{n-1} , σ_n , \bar{x} , n , $\sum x$ y $\sum x^2$ basándose en los datos: 55, 54, 51, 55, 53, 53, 54, 52.

“SD” (MODE \square)

SHIFT SAC 55 DATA 54 DATA 51 DATA
55 DATA 53 DATA DATA 54 DATA
52 DATA

52. 52.

(Sample standard deviation)
(Desviación estándar de muestra)

SHIFT σ_{n-1} 1.407885953

(Population standard deviation)
(Desviación estándar de población)

SHIFT σ_n 1.316956719

(Arithmetical mean)
(Media aritmética)

SHIFT \bar{x} 53.375

(Number of data)
(Número de datos)

SHIFT n 8.

(Sum of value)
(Suma de valores)

SHIFT $\sum x$ 427.

(Sum of square value)
(Suma de valores al cuadrado)

SHIFT $\sum x^2$ 22805.

What is deviation of the unbiased variance, the difference between each datum, and the mean of the above data?

¿Cuál es la desviación de una varianza sin sesgo, la diferencia entre cada dato, y la media de los datos anteriores?

(Continuing) SHIFT σ_{n-1} SHIFT \bar{x} 1.982142857
(Continuando)

SHIFT \bar{x} \square \square 55 \square 1.625
(55 - \bar{x})

54 \square 0.625
(54 - \bar{x})

51 \square -2.375
(51 - \bar{x})

What is \bar{x} and σ_{n-1} for the following table?
 ¿Cuál es el valor de \bar{x} y σ_{n-1} para la siguiente tabla?

Class no. Núm. de clase	Value Valor	Frequency Frecuencia
1	110	10
2	130	31
3	150	24
4	170	2
5	190	3

SHIFT SAC 110 X 10 DATA	110.
130 X 31 DATA	130.
150 X 24 DATA	150.
170 DATA DATA	170.
190 DATA DATA DATA	190.
SHIFT \bar{n}	70.
SHIFT \bar{x}	137.7142857
SHIFT σ_{n-1}	18.42898069

- *Pressing σ_{n-1} , σ_n , \bar{x} , \bar{n} , Σx or Σx^2 key need not be done sequentially.
- *With data of the same value, the DATA key enters the number of data and the X key enters the value.
- *To delete wrong entries press the DEL key after the SHIFT key.

- *La presión de las teclas σ_{n-1} , σ_n , \bar{x} , \bar{n} , Σx ó Σx^2 no necesita ser hecha en secuencia.
- *Con datos del mismo valor, la tecla DATA introduce el número de datos y la tecla X introduce el valor.
- *Para borrar una entrada equivocada, presionar la tecla DEL después de la tecla SHIFT.

•Correction procedure I

Correct input: 51 DATA

•Procedimiento de corrección I

Ingreso correcto: 51 DATA

Error Error	Correction Corrección
50 DATA	SHIFT DEL 51 DATA
51 X	1 DATA (or/o AC 51 DATA)

Use the following procedure when the error is discovered after inputting other data.

Utilice el siguiente procedimiento cuando se descubre el error luego de ingresar otros datos.

49 DATA	49 SHIFT DEL 51 DATA
---------	----------------------

•Correction procedure II

Correct input: 130 X 31 DATA

•Procedimiento de corrección II

Ingreso correcto: 130 X 31 DATA

Error Error	Correction Corrección
120 X	AC 130 X 31 DATA
120 X 31	AC 130 X 31 DATA

Use the following procedure when the error is discovered after inputting other data.

Utilice el siguiente procedimiento cuando se descubre el error luego de ingresar otros datos.

120 X 30 DATA	120 X 30 SHIFT DEL 130 X 31 DATA
---------------	----------------------------------

10/EQUATION CALCULATIONS

The following are the types of equations that can be solved using this calculator.

- (1) Quadratic equations
- (2) Simultaneous Linear equations with two unknowns
- (3) Simultaneous Linear equations with three unknowns

10/CALCULOS DE ECUACIONES

Con esta calculadora pueden realizarse los siguientes tipos de ecuaciones.

- (1) Ecuaciones cuadráticas
- (2) Ecuaciones lineales simultáneas con dos incógnitas
- (3) Ecuaciones lineales simultáneas con tres incógnitas

10-1 Quadratic equations

- This calculator solves quadratic equations that match the following format ($a \neq 0$):

$$ax^2 + bx + c = 0$$

- To solve a quadratic equation, enter the QUAD mode (indicated by the "QUAD" indicator on the display) by pressing **MODE** **1**.
- To input values for Terms a , b , and c , use the format: <term value> **DATA**.
- The operation **SHIFT** **SAC** clears all values currently assigned to terms.
- If you press **DATA** after inputting a coefficient, the solutions are displayed as described below.

When there are two solutions:

The symbol " x_1 " is displayed with solution 1.
Pressing **DATA** again displays the symbol " x_2 " along with solution 2.

When there is one solution:

The symbol " x " is displayed with the solution.
Pressing **DATA** again displays the value of coefficient a .

- Note that an error is generated if a solution is impossible.

10-1 Ecuaciones cuadráticas

- Esta calculadora resuelve ecuaciones cuadráticas que cumplen con el siguiente formato ($a \neq 0$):

$$ax^2 + bx + c = 0$$

- Para resolver una ecuación cuadrática, ingrese el modo QUAD (indicado mediante el indicador "QUAD" sobre la presentación) presionando **MODE** **1**.
- Para ingresar valores para los términos a , b y c , utilice el formato: <valores de término> **DATA**.
- La operación **SHIFT** **SAC** borra todos los valores actualmente asignados a los términos.
- Si presiona **DATA** luego de ingresar un coeficiente, las soluciones se visualizan de la manera descrita a continuación.

Cuando existen dos soluciones:

Con la solución 1 se visualiza el símbolo " x_1 ".

Presionando **DATA** nuevamente visualiza el símbolo " x_2 " junto con la solución 2.

Cuando existe solamente una solución:

Con la solución se visualiza el símbolo " x ".

Presionando **DATA** nuevamente visualiza el valor del coeficiente a .

- Tenga en cuenta que si una solución es imposible se generará un error.

Example: Solve the equation:

Ejemplo: Resolver la ecuación:

$$2x^2 + x - 10 = 0$$

MODE **1** (Enters QUAD mode)
(Ingresa el modo QUAD)

a ?	0. QUAD
-----	---------

(Clears values previously assigned to terms)
(Borra los valores previamente asignados a los términos)

SHIFT SAC a ?	0. QUAD
-----------------------------	---------

(Input value for Term a)
(Ingrese el valor para el término a)

2	a ?	2. QUAD
DATA	b ?	0. QUAD

- Valid input values can have up to a 6-digit mantissa and 2-digit exponent.
- Los valores de ingreso válidos tienen una mantisa de hasta 6 dígitos y un exponente de 2 dígitos.

(Input value for Term b)
(Ingrese el valor para el término b)

1	b ?	1. QUAD
DATA	c ?	0. QUAD

(Input value for Term c)
(Ingrese el valor para el término c)

1 0 ÷	c ?	-10. QUAD
----------------------------	-----	-----------

(Display Solution x_1)
(Presentación de solución x_1)

DATA	x_1	2. QUAD
-------------	-------	---------

(Display Solution x_2)
(Presentación de solución x_2)

DATA	x_2	-2.12. QUAD
-------------	-------	-------------

- Pressing **$\frac{a}{b}$** converts the result from a fraction to a decimal. The result is automatically displayed as a decimal if it exceeds the allowable range for a fraction.
- Internal calculations are performed using a 12-digit mantissa, but displayed values use a 6-digit mantissa and 2-digit exponent (with an additional digit being added for a negative sign when necessary).
- Presionando **$\frac{a}{b}$** convierte el resultado de una fracción a un decimal. El resultado es automáticamente visualizado como un decimal si excede la extensión permisible para una fracción.
- Los cálculos internos se realizan usando una mantisa de 12 dígitos, pero los valores visualizados utilizan una mantisa de 6 dígitos y un exponente de 2 dígitos (agregándose un dígito adicional para un signo negativo cuando es necesario).

Other Functions

- Each time you press **DATA** after a calculation is complete, the display changes to show values in the following sequence:
Term a \rightarrow Term b \rightarrow Term c \rightarrow Solution x_1 \rightarrow Solution x_2 \rightarrow Term a \rightarrow ...
Pressing **SHIFT DATA** produces values in one of the following two sequences:
If a term is displayed:
Term c \rightarrow Term b \rightarrow Term a
If a solution is displayed:
Solution x_2 \rightarrow Solution x_1
- When you press **DATA** while a solution is displayed, the calculator displays the values assigned to Term a . At that point, you can assign new values for Terms a , b , and c , and then calculate the solution for the new values.
- You can assign fractional values for terms.
- You can also use the **MR** key to assign the value currently stored in independent memory to a term. Note, however, that if the value stored in memory has a mantissa that is longer than seven digits, it is automatically rounded off to six digits before being assigned.

Otras funciones

- Cada vez que presiona **DATA** luego de que se completa un cálculo, la presentación cambia para mostrar valores en la secuencia siguiente:
 Término $a \rightarrow$ Término $b \rightarrow$ Término $c \rightarrow$
 Solución $x_1 \rightarrow$ Solución $x_2 \rightarrow$ Término $a \rightarrow \dots$
 Presionando **SHIFT DATA** produce valores en una de las siguientes dos secuencias:
 Si se visualiza un término:
 Término $c \rightarrow$ Término $b \rightarrow$ Término a
 Si se visualiza una solución:
 Solución $x_2 \rightarrow$ Solución x_1
- Cuando se presiona **DATA** mientras se visualiza una solución, la calculadora visualiza los valores asignados al término a . En este punto, pueden asignarse nuevos valores a los términos a , b y c , y luego calcular la solución para los nuevos valores.
- Se pueden asignar valores fraccionarios a los términos.
- También puede usarse la tecla **MR** para asignar a un término, el valor actualmente almacenado en la memoria independiente.
 Observe, sin embargo, que si el valor almacenado en la memoria tiene una mantisa con una longitud mayor de siete dígitos, es redondeado automáticamente a seis dígitos antes de ser asignado.

10-2 Simultaneous linear equations with two unknowns

- This calculator solves simultaneous linear equations with two unknowns that match the following format:

$$a_1x + b_1y = c_1$$

$$a_2x + b_2y = c_2$$
- To solve simultaneous linear equations with two unknowns, enter the SIMUL (2) mode (indicated by the "SIMUL" indicator on the display) by pressing **MODE 2**.
- To input values for terms, use the format: <term value> **DATA**.
- The operation **SHIFT SAC** clears all values currently assigned to terms.

- After you assign values for terms, press **DATA** to solve for x . Press **DATA** again to solve for y . An error is generated if a solution is impossible.

10-2 Ecuaciones lineales simultáneas con dos incógnitas

- Esta calculadora resuelve ecuaciones lineales simultáneas con dos incógnitas que cumplen con el siguiente formato:

$$a_1x + b_1y = c_1$$

$$a_2x + b_2y = c_2$$
- Para resolver las ecuaciones lineales con dos incógnitas, ingrese el modo SIMUL (2) (indicado por el indicador "SIMUL" en la presentación) presionando **MODE 2**.
- Para ingresar valores para los términos, utilice el formato: <valor de término> **DATA**.
- La operación **SHIFT SAC** borra todos los valores actualmente asignados a los términos.
- Luego de asignar valores a los términos, presione **DATA** para que resuelva para x . Presionando **DATA** nuevamente resuelve para y . Se generará un error si una solución es imposible.

Example: Solve for x and y :

Ejemplo: Resolver para x e y :

$$2x + 3y = 8$$

$$3x + 5y = 14$$

MODE 2 (Enters SIMUL (2) mode)
 (Ingrese el modo SIMUL (2))

a	?	0. SIMUL
1		

(Clears values previously assigned to terms)
 (Borra los valores previamente asignados a los términos)

SHIFT SAC	a	?	0. SIMUL
	1		

(Input value for Term a_1)
(Ingrese el valor para el término a_1)

2	a ?	2. SIMUL
DATA	b ?	0. SIMUL

- Valid input values can have up to a 6-digit mantissa and 2-digit exponent.
- Los valores de ingreso válidos tienen una mantisa de hasta 6 dígitos y un exponente de 2 dígitos.

(Input value for Term b_1)
(Ingrese el valor para el término b_1)

3	b ?	3. SIMUL
DATA	c ?	0. SIMUL

(Input value for Term c_1)
(Ingrese el valor para el término c_1)

8	c ?	8. SIMUL
DATA	a ?	0. SIMUL

(Input value for Term a_2)
(Ingrese el valor para el término a_2)

3	a ?	3. SIMUL
DATA	b ?	0. SIMUL

(Input value for Term b_2)
(Ingrese el valor para el término b_2)

5	b ?	5. SIMUL
DATA	c ?	0. SIMUL

(Input value for Term c_2)
(Ingrese el valor para el término c_2)

1 4	c ?	14. SIMUL
-------------------	-----	-----------

(Display Solution x)
(Presentación de solución x)

DATA	x	-2. SIMUL
-------------	---	-----------

(Display Solution y)
(Presentación de solución y)

DATA	y	4. SIMUL
-------------	---	----------

- Pressing **2/3** converts the result from a fraction to a decimal. The result is automatically displayed as a decimal if it exceeds the allowable range for a fraction.
- Internal calculations are performed using a 12-digit mantissa, but displayed values use a 6-digit mantissa and 2-digit exponent (with an additional digit being added for a negative sign when necessary).
- Presionando **2/3** convierte el resultado de una fracción a un decimal. El resultado es automáticamente visualizado como un decimal si excede la extensión permisible para una fracción.
- Los cálculos internos se realizan usando una mantisa de 12 dígitos, pero los valores visualizados utilizan una mantisa de 6 dígitos y un exponente de 2 dígitos (agregándose un dígito adicional para un signo negativo cuando es necesario).

Other Functions

- Each time you press **DATA** after a calculation is complete, the display changes to show values in the following sequence:
Term a_1 → Term b_1 → Term c_1 → Term a_2 →
Term b_2 → Term c_2 → Solution x → Solution y →
Term a_1 → ...
Pressing **SHIFT DATA** produces values in one of the following two sequences:
If a term is displayed:
Term c_2 → Term b_2 → Term a_2 → Term c_1 →
Term b_1 → Term a_1
If a solution is displayed:
Solution y → Solution x
- Pressing **DATA** while solution y is displayed displays the value for Term a_1 . At that point you can assign different values for the terms.
- You can input fractional values for terms.
- You can also use the **MR** key to assign the value currently stored in independent memory to a term. Note, however, that if the value stored in memory has a mantissa that is longer than seven digits, it is automatically rounded off to six digits before being assigned.

Otras funciones

- Cada vez que presione **DATA** luego de que se completa un cálculo, la presentación cambiará para mostrar valores en la secuencia siguiente:
Término a_1 → Término b_1 → Término c_1 →
Término a_2 → Término b_2 → Término c_2 →
Solución x → Solución y → Término a_1 → ...
Presionando **SHIFT DATA** produce valores en una de las secuencias siguientes:
Si se visualiza un término:
Término c_2 → Término b_2 → Término a_2 →
Término c_1 → Término b_1 → Término a_1
Si se visualiza una solución:
Solución y → Solución x

- Presionando **DATA** mientras se visualiza la solución y , se muestra el valor para el término a_1 . En este punto se pueden asignar diferentes valores para los términos.
- Para los términos se pueden ingresar valores fraccionarios.
- También puede usarse la tecla **MR** para asignar a un término, el valor actualmente almacenado en la memoria independiente.
Observe, sin embargo, que si el valor almacenado en la memoria tiene una mantisa con una longitud mayor de siete dígitos, es redondeado automáticamente a seis dígitos antes de ser asignado.

10-3 Simultaneous linear equations with three unknowns

- This calculator solves simultaneous linear equations with three unknowns that match the following format:
$$a_1x + b_1y + c_1z = d_1$$
$$a_2x + b_2y + c_2z = d_2$$
$$a_3x + b_3y + c_3z = d_3$$
- To solve simultaneous linear equations with three unknowns, enter the SIMUL (3) mode (indicated by the "SIMUL" indicator on the display) by pressing **MODE 3**.
- To input values for terms, use the format: <term value> **DATA**.
- The operation **SHIFT SAC** clears all values currently assigned to terms.
- After you assign values for terms, press **DATA** to solve for x . Press **DATA** again to solve for y . To solve for z , press **DATA** again. An error is generated if a solution is impossible.

10-3 Ecuaciones lineales simultáneas con tres incógnitas

- Esta calculadora resuelve ecuaciones lineales simultáneas con tres incógnitas que cumplen con el siguiente formato:

$$\begin{aligned} a_1x + b_1y + c_1z &= d_1 \\ a_2x + b_2y + c_2z &= d_2 \\ a_3x + b_3y + c_3z &= d_3 \end{aligned}$$

- Para resolver las ecuaciones lineales con tres incógnitas, ingrese el modo SIMUL (3) (indicado por el indicador "SIMUL" en la presentación) presionando **MODE** **3**.
- Para ingresar valores para los términos, utilice el formato: <valor de término> **DATA**.
- La operación **SHIFT** **SAC** borra todos los valores actualmente asignados a los términos.
- Luego de asignar valores a los términos, presione **DATA** para que resuelva para x . Presionando **DATA** nuevamente resuelve para y . Para resolver para z , presione nuevamente **DATA**. Se generará un error si una solución es imposible.

Example: Solve for x , y and z :

Ejemplo: Resolver para x , y y z :

$$\begin{aligned} 4x + y - 2z &= -1 \\ x + 6y + 3z &= 1 \\ -5x + 4y + z &= -7 \end{aligned}$$

MODE **3** (Enters SIMUL (3) mode)
(Ingrese el modo SIMUL (3))

a	?	
1		0. SIMUL

(Clears values previously assigned to terms)
(Borre los valores previamente asignados a los términos)

SHIFT SAC	a	?	
	1		0. SIMUL

(Input value for Term a_1)
(Ingrese el valor para el término a_1)

4	a	?	
	1		4. SIMUL
DATA	b	?	
	1		0. SIMUL

- Valid input values can have up to a 6-digit mantissa and 2-digit exponent.
- Los valores de ingreso válidos tienen una mantisa de hasta 6 dígitos y un exponente de 2 dígitos.

(Input value for Term b_1)
(Ingrese el valor para el término b_1)

1	b	?	
	1		1. SIMUL
DATA	c	?	
	1		0. SIMUL

(Input value for Term c_1)
(Ingrese el valor para el término c_1)

2 +/−	c	?	
	1		-2. SIMUL
DATA	d	?	
	1		0. SIMUL

(Input value for Term d_1)
(Ingrese el valor para el término d_1)

1 +/−	d	?	
	1		-1. SIMUL
DATA	a	?	
	2		0. SIMUL

(Input value for Term a_2)
(Ingrese el valor para el término a_2)

1	a ? 2	1. SIMUL
DATA	b ? 2	0. SIMUL

•
•
•
•

•
•
•
•

(Input value for Term d_3)
(Ingrese el valor para el término d_3)

7	$\frac{\square}{\square}$	d3 ? -7. SIMUL
---	---------------------------	-------------------

(Display Solution x)
(Presentación de solución x)

DATA	x	1. SIMUL
------	---	----------

(Display Solution y)
(Presentación de solución y)

DATA	y	-1. SIMUL
------	---	-----------

(Display Solution z)
(Presentación de solución z)

DATA	z	2. SIMUL
------	---	----------

- Pressing $\frac{\square}{\square}$ converts the result from a fraction to a decimal. The result is automatically displayed as a decimal if it exceeds the allowable range for a fraction.
- Internal calculations are performed using a 12-digit mantissa, but displayed values use a 6-digit mantissa and 2-digit exponent (with an additional digit being added for a negative sign when necessary).

- Pressing $\frac{\square}{\square}$ convierte el resultado de una fracción a un decimal. El resultado es automáticamente visualizado como un decimal si excede la extensión permisible para una fracción.
- Los cálculos internos se realizan usando una mantisa de 12 dígitos, pero los valores visualizados utilizan una mantisa de 6 dígitos y un exponente de 2 dígitos (agregándose un dígito adicional para un signo negativo cuando es necesario).

Other Functions

- Each time you press **DATA** after a calculation is complete, the display changes to show values in the following sequence:
Term a_1 → Term b_1 → Term c_1 → Term d_1 →
Term a_2 → Term b_2 → Term c_2 → Term d_2 →
Term a_3 → Term b_3 → Term c_3 → Term d_3 →
Solution x → Solution y → Solution z → Term a_1 →
...

Pressing **SHIFT DATA** produces values in one of the following two sequences:

If a term is displayed:

Term d_3 → Term c_3 → Term b_3 → Term a_3 →
Term d_2 → Term c_2 → Term b_2 → Term a_2 →
Term d_1 → Term c_1 → Term b_1 → Term a_1

If a solution is displayed:

Solution z → Solution y → Solution x

- Pressing **DATA** while solution z is displayed displays the value for Term a_1 . At that point you can assign different values for the terms.
- You can input fractional values for terms.
- You can also use the **MR** key to assign the value currently stored in independent memory to a term. Note, however, that if the value stored in memory has a mantissa that is longer than seven digits, it is automatically rounded off to six digits before being assigned.

Otras funciones

- Cada vez que presione **DATA** luego de que se completa un cálculo, la presentación cambiará para mostrar valores en la secuencia siguiente:

Término a_1 → Término b_1 → Término c_1 →
Término d_1 → Término a_2 → Término b_2 →
Término c_2 → Término d_2 → Término a_3 →
Término b_3 → Término c_3 → Término d_3 →
Solución x → Solución y → Solución z →
Término a_1 → ...

Presionando **SHIFT DATA** produce valores en una de las secuencias siguientes:

Si se visualiza un término:

Término d_3 → Término c_3 → Término b_3 →
Término a_3 → Término d_2 → Término c_2 →
Término b_2 → Término a_2 → Término d_1 →
Término c_1 → Término b_1 → Término a_1

Si se visualiza una solución:

Solución z → Solución y → Solución x

- Presionando **DATA** mientras se visualiza la solución z , se muestra el valor para el término a_1 . En este punto se pueden asignar valores diferentes para los términos.
- Para los términos también se pueden ingresar valores fraccionarios.
- También puede usarse la tecla **MR** para asignar a un término, el valor actualmente almacenado en la memoria independiente.
Observe, sin embargo, que si el valor almacenado en la memoria tiene una mantisa con una longitud mayor de siete dígitos, es redondeado automáticamente a seis dígitos antes de ser asignado.

What to do when an error is generated ...

• Error when assigning values to terms

Press the **AC** key to clear the error. Note that the value for the term is also cleared to zero at this time. Correctly input the value for the term and proceed with the calculation.

• Error produced by a calculation result

Press the **AC** key to clear the error. At this time, the value for Term a appear on the display. Input new values for the terms and try again. Note that in this case, all the terms retain their original values after you press **AC**.

Qué hacer cuando se genera un error...

• Error cuando se asignan valores a los términos

Presione la tecla **AC** para borrar el error. Observe que en este momento el valor para el término también queda en cero. Ingrese correctamente el valor para el término y proceda con el cálculo.

• Error producido por un resultado de cálculo

Presione la tecla **AC** para borrar el error. En este momento, en la pantalla aparecerá el valor para el término a . Ingrese los nuevos valores para los términos e intente nuevamente. Observe que en este caso, todos los términos retienen sus valores originales luego de que presiona **AC**.

To change a value input for a term

Use one of the following two procedures to change values assigned to term. Note that the following procedures are valid only if you have not yet pressed **DATA** to solve the equation.

- Press **C** or **AC** to clear the currently value to zero, and then input a different value.
- Press **SHIFT SAC** to clear all values assigned to terms, and input new ones.

Para cambiar un valor ingresado a un término

Para cambiar los valores asignados a los términos, utilice uno de los procedimientos siguientes. Observe que los procedimientos siguientes, son válidos solamente si aun no ha presionado **DATA** para resolver la ecuación.

- Presione **C** o **AC** para suprimir el valor actual a cero, y luego ingresar un valor diferente.
- Presione **SHIFT** **SAC** para borrar todos los valores asignados a los términos, e ingrese valores nuevos.

Important!

Note that considerable time is required to calculate the solutions for a simultaneous linear equation with three variables. If nothing appears on the display after you press **DATA**, it does not indicate an error or malfunction. Please allow enough time for the calculation to be complete.

¡Importante!

Observe que para calcular las soluciones para una ecuación lineal simultánea con tres variables se requiere de considerable tiempo. Si no aparece nada sobre la presentación luego de que presiona **DATA**, no es ningún indicio de error o falla de funcionamiento. Permita suficiente tiempo para que el cálculo se complete.

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