

# TI-30X IIB

and

# TI-30X IIS

## Scientific Calculators

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### General Information

**Examples:** See the last page of these instructions for keystroke examples that demonstrate many of the TI-30X II functions. Examples assume all default settings.

**[ON]** turns on the TI-30X II. **[2nd] [OFF]** turns it off and clears the display.

**APD™** (Automatic Power Down™) turns off the TI-30X II automatically if no key is pressed for about 5 minutes. Press **[ON]** after APD. The display, pending operations, settings, and memory are retained.

**2-Line Display:** The first line (**Entry Line**) displays an entry of up to 88 digits (or 47 digits for Stat or Constant Entry Line). Entries begin on the left; those with more than 11 digits scroll to the right. Press **[←]** and **[→]** to scroll the line. Press **[2nd] [←]** or **[2nd] [→]** to move the cursor immediately to the beginning or end of the entry.

The second line (**Result Line**) displays a result of up to 10 digits, plus a decimal point, a negative sign, a "x10" indicator, and a 2-digit positive or negative exponent. Results that exceed the digit limit are displayed in Scientific Notation.

Indicator	Definition
<b>2nd</b>	2nd function.
<b>HYP</b>	Hyperbolic function.
<b>FIX</b>	Fixed-decimal setting.
<b>SCI, ENG</b>	Scientific or Engineering Notation.
<b>STAT</b>	Statistical mode.
<b>DEG, RAD, GRAD</b>	Angle mode (degrees, radians, or gradients).
<b>K</b>	Constant mode is on.
<b>x10</b>	Precedes the exponent in Scientific or Engineering Notation.
↑ ↓	An entry is stored in memory before and/or after the active screen. Press <b>[↵]</b> and <b>[↵]</b> to scroll.
→ ←	An entry or menu displays beyond 11 digits. Press <b>[←]</b> or <b>[→]</b> to scroll.

**2nd Functions:** **[2nd]** displays the **2nd** indicator, and then selects the 2nd function (printed above keys) of the next key pressed. For example, **[2nd] [√] 25 [ENTER]** calculates the square root of 25 and returns the result, 5.

**Menus:** Certain TI-30X II keys display menus: **[MEMVAR]**, **[2nd] [RCL]**, **[STO▶]**, **[2nd] [STAT]**, **[STATVAR]**, **[2nd] [EXIT STAT]**, **[PRB]**, **[DRG]**, **[° ' "]**, **[2nd] [R↔P]**, **[2nd] [SCI/ENG]**, **[2nd] [FIX]**, and **[2nd] [RESET]**.

Press **[←]** or **[→]** to move the cursor and underline a menu item. To return to the previous screen without selecting the item, press **[CLEAR]**.

To select a menu item:

- Press **[ENTER]** while the item is underlined, or
- For menu items followed by an argument value, enter the argument value while the item is underlined. The item and the argument value are displayed on the previous screen.

### Previous Entries

After an expression is evaluated, use **[↵]** and **[↵]** to scroll through previous entries, which are stored in the TI-30X II memory. You cannot retrieve previous entries while in **STAT** mode. You can edit a previous entry and press **[ENTER]** to evaluate the new expression.

### Last Answer

**[2nd] [ANS]**

The most recently calculated result is stored to the variable **Ans**. **Ans** is retained in memory, even after the TI-30X II is turned off. To recall the value of **Ans**:

- Press **[2nd] [ANS]** (**Ans** displays on the screen), or
- Press any operations key (**[+]**, **[−]**, **[×]**, etc.) as the first part of an entry. **Ans** and the operator are both displayed.

### Order of Operations

The TI-30X II uses EOS™ (Equation Operating System) to evaluate expressions.

1st	Expressions inside parentheses.
2nd	Functions that need a ) and precede the argument, such as <b>sin</b> , <b>log</b> , and all <b>R↔P</b> menu items.
3rd	Fractions.
4th	Functions that are entered after the argument, such as <b>x²</b> and angle unit modifiers ( <b>° ' " r g</b> ).
5th	Exponentiation ( <b>^</b> ) and roots ( <b>√</b> ).
6th	Negation ( <b>−</b> ).
7th	Permutations ( <b>nPr</b> ) and combinations ( <b>nCr</b> ).
8th	Multiplication, implied multiplication, division.
9th	Addition and subtraction.
10th	Conversions ( <b>A b/c ↔ d/e</b> , <b>F↔D</b> , <b>►DMS</b> ).
11th	<b>[ENTER]</b> completes all operations and closes all open parentheses.

### Clearing and Correcting

<b>[CLEAR]</b>	Clears an error message. Clears characters on entry line. Moves the cursor to last entry in history once display is clear.
<b>[DEL]</b>	Deletes the character at the cursor. Deletes all characters to the right when you hold down <b>[DEL]</b> ; then, deletes 1 character to the left of the cursor each time you press <b>[DEL]</b> .
<b>[2nd] [INS]</b>	Inserts a character at the cursor.
<b>[2nd] [CLRVAR]</b>	Clears all memory variables.
<b>[2nd] [STAT] CLRDATA</b>	Clears all data points without exiting <b>STAT</b> mode.
<b>[2nd] [EXIT STAT] Y</b>	Clears all data points and exits <b>STAT</b> mode.
<b>[2nd] [RESET] Y</b> or <b>[ON] &amp; [CLEAR]</b>	Resets the TI-30X II. Returns unit to default settings; clears memory variables, pending operations, all entries in history, and statistical data; clears constant mode and <b>Ans</b> .

### Fractions

**[Ab/c]** **[2nd] [F↔D]** **[2nd] [Ab/c ↔ d/e]**

Fractional calculations can display fractional or decimal results. Results are automatically simplified.

- **[Ab/c]** enters a fraction. Press **[Ab/c]** between whole number, numerator, and denominator. The unit, numerator, and denominator must be positive integers.
- **[2nd] [F↔D]** converts between fractions and decimals.
- **[2nd] [Ab/c ↔ d/e]** converts between mixed numbers and simple fractions.

### Pi

**[π]**

$\pi = 3.141592653590$  for calculations.  
 $\pi = 3.141592654$  for display.

### Angle Modes

**[DRG]** **[° ' "]**

**[DRG]** displays a menu to specify the Angle mode as degrees, radians, or gradients.

**[° ' "]** displays a menu to specify the Angle unit modifier—degrees (**°**), radians (**r**), gradients (**g**), or DMS (**° ' "**). It also lets you convert an angle to DMS Notation (**►DMS**).

To set the Angle mode for any part of an entry:

- Select the Angle mode. Entries are interpreted and results displayed according to the Angle mode, or

- Select a unit modifier (**° ' "**) for any part of an entry. Entries with unit modifiers are interpreted accordingly, overriding the Angle mode.

To convert an entry:

- Set the Angle mode to the unit you want to convert to. Then use a unit modifier to designate the unit to convert from. (Angles of trigonometric functions convert values inside parentheses first.), or
- Select **►DMS**, which converts an entry to DMS (**° ' "**) Notation.

### Trigonometry

**[SIN]** **[COS]** **[TAN]**  
**[2nd] [SIN<sup>-1</sup>]** **[2nd] [COS<sup>-1</sup>]** **[2nd] [TAN<sup>-1</sup>]**

Enter trigonometric functions (**sin**, **cos**, **tan**, **sin<sup>-1</sup>**, **cos<sup>-1</sup>**, **tan<sup>-1</sup>**), just as you would write them. Set the desired Angle mode before starting trigonometric calculations.

### Hyperbolics

**[2nd] [HYP]**

**[2nd] [HYP]** displays the **HYP** indicator and accesses the hyperbolic function of the next trigonometry key that you press. Angle modes do not affect hyperbolic calculations.

### Logarithms

**[LOG]** **[LN]** **[2nd] [10<sup>x</sup>]** **[e<sup>x</sup>]**

**[LOG]** yields the common logarithm of a number.

**[LN]** yields the logarithm of a number to the base e (e=2.819291929).

**[2nd] [10<sup>x</sup>]** raises 10 to the power you specify.

**[2nd] [e<sup>x</sup>]** raises e to the power you specify.

### Rectangular↔Polar

**[2nd] [R↔P]**

**[2nd] [R↔P]** displays a menu to convert rectangular coordinates (x,y) to polar coordinates (r,θ) or vice versa. Set Angle mode, as necessary, before starting calculations.

### Constants

**[2nd] [K]**

**[2nd] [K]** turns Constant mode on and lets you define a constant.

To store an operation to **K** and recall it:

1. Press **[2nd] [K]**.
2. Enter any combination of numbers, operators, and/or values, up to 44 characters, beginning with an operator.
3. Press **[ENTER]** to save the operation. **K** displays in the indicator line.
4. Each subsequent time you press **[ENTER]**, the TI-30X II recalls the stored operation and applies it to the last answer or the current entry.

Press **[2nd] [K]** again to turn Constant mode off.

### Memory

**[MEMVAR]** **[STO▶]** **[2nd] [RCL]** **[CLRVAR]**

The TI-30X II has 5 memory variables—**A**, **B**, **C**, **D**, and **E**. You can store a real number or an expression that results in a real number to a memory variable.

- **[MEMVAR]** accesses the menu of variables.
- **[STO▶]** lets you store values to variables.
- **[2nd] [RCL]** recalls the values of variables.
- **[2nd] [CLRVAR]** clears all variable values.

### Notation

**[2nd] [FIX]** **[2nd] [SCI/ENG]** **[2nd] [EE]**

**[2nd] [FIX]** displays the **Decimal Notation** mode menu.

These modes affect *only* the display of results. **F** (default) restores standard notation (floating-decimal) format. **0123456789** sets decimal places to *n* (0–9), retaining numeric notation mode format.

**[2nd] [SCI/ENG]** displays the **Numeric Notation** mode menu. These modes affect *only* the display of results.

- **FLO** (default): Floating Notation, with digits to the left and right of the decimal
- **SCI**: Scientific Notation
- **ENG**: Engineering Notation (exponent is a multiple of 3)

**[2nd] [EE]** enters a value in **Scientific Notation**, regardless of the numeric notation mode. Press **[−]** before entering a negative exponent.

## Statistics [2nd][STAT][EXIT STAT] [DATA] [STATVAR]

1-VAR analyzes statistical data from 1 data set with 1 measured variable,  $x$ . 2-VAR stats analyzes paired data from 2 data sets with 2 measured variables— $x$ , the independent variable, and  $y$ , the dependent variable. You can enter up to 42 data sets.

To define statistical data points:

- Press [2nd] [STAT]. Select 1-VAR or 2-VAR and press [ENTER]. The STAT indicator displays.
- Press [DATA].
- Enter a value for  $X_1$ .
- Press  $\ominus$ .
  - In 1-VAR stat mode, enter the frequency of occurrence (FRQ) of the data point. FRQ default=1. If FRQ=0, the data point is ignored.
  - In 2-VAR stat mode, enter the value for  $Y_1$  and press [ENTER].
- Repeat steps 3 and 4 until all data points are entered. You must press [ENTER] or  $\ominus$  to save the last data point or FRQ value entered. If you add or delete data points, the TI-30X II automatically reorders the list.
- When all points and frequencies are entered:
  - Press [STATVAR] to display the menu of variables (see table for definitions) and their current values, or
  - Press [DATA] to return to the blank STAT screen. You can do calculations with data variables ( $\bar{x}$ ,  $\bar{y}$ , etc.). Select a variable from the [STATVAR] menu and then press [ENTER] to evaluate the calculation.
- When finished:
  - Press [2nd] [STAT] and select CLRDATA to clear all data points without exiting STAT mode, or
  - Press [2nd] [EXIT STAT] [ENTER] to clear all data points, variable and FRQ values, and to exit STAT mode (STAT indicator turns off).

Variables	Definition
$n$	Number of $x$ or $(x,y)$ data points.
$\bar{x}$ or $\bar{y}$	Mean of all $x$ or $y$ values.
$S_x$ or $S_y$	Sample standard deviation of $x$ or $y$ .
$\sigma_x$ or $\sigma_y$	Population standard deviation of $x$ or $y$ .
$\Sigma x$ or $\Sigma y$	Sum of all $x$ or $y$ values.
$\Sigma x^2$ or $\Sigma y^2$	Sum of all $x^2$ or $y^2$ values.
$\Sigma xy$	Sum of $(x \cdot y)$ for all $xy$ pairs.
$a$	Linear regression slope.
$b$	Linear regression $y$ -intercept.
$r$	Correlation coefficient.
$x'$ (2-VAR)	Uses $a$ and $b$ to calculate predicted $x$ value when you input a $y$ value.
$y'$ (2-VAR)	Uses $a$ and $b$ to calculate predicted $y$ value when you input an $x$ value.

## Probability [PRB]

$nPr$	Calculates the number of possible <b>permutations</b> of $n$ items taken $r$ at a time, given $n$ and $r$ . The order of objects is important, as in a race.
$nCr$	Calculates the number of possible <b>combinations</b> of $n$ items taken $r$ at a time, given $n$ and $r$ . The order of objects is not important, as in a hand of cards.
$!$	A <b>factorial</b> is the product of the positive integers from 1 to $n$ . $n$ must be a positive whole number $\leq 69$ .
RAND	Generates a random real number between 0 and 1. To control a sequence of random numbers, store an integer (seed value) $\geq 0$ to <b>rand</b> . The seed value changes randomly every time a random number is generated.
RANDI	Generates a random integer between 2 integers, $A$ and $B$ , where $A \leq \text{RANDI} \leq B$ . Separate the 2 integers with a comma.

## Errors

**ARGUMENT** — A function does not have the correct number of arguments.

**DIVIDE BY 0** —

- You attempted to divide by 0.
- In statistics,  $n=1$ .

**DOMAIN** — You specified an argument to a function outside the valid range. For example:

- For  $x\sqrt{\quad}$ :  $x = 0$  or  $y < 0$  and  $x$  not an odd integer.
- For  $yx$ :  $y$  and  $x = 0$ ;  $y < 0$  and  $x$  not an integer.
- For  $\sqrt{x}$ :  $x < 0$ .
- For LOG or LN:  $x \leq 0$ .
- For TAN:  $x = 90^\circ, -90^\circ, 270^\circ, -270^\circ, 450^\circ$ , etc.
- For SIN-1 or COS-1:  $|x| > 1$ .
- For  $nCr$  or  $nPr$ :  $n$  or  $r$  are not integers  $\geq 0$ .
- For  $xl$ :  $x$  is not an integer between 0 and 69.

**EQUATION LENGTH ERROR** — An entry exceeds the digit limits (88 for Entry Line and 47 for Stat or Constant Entry lines); for example, combining an entry with a constant that exceeds the limit.

**FRQ DOMAIN** — FRQ value (in 1-VAR stats)  $< 0$  or  $> 99$ , or not an integer.

**OVERFLOW** —  $|\theta| \geq 1E10$ , where  $\theta$  is an angle in a trig, hyperbolic, or RPrf function.

**STAT** —

- Pressing [STATVAR] with no defined data points.
- When not in STAT mode, pressing [DATA], [STATVAR], or [2nd] [EXIT STAT].

**SYNTAX** — The command contains a syntax error: entering more than 23 pending operations or 8 pending values; or having misplaced functions, arguments, parentheses, or commas.

## Battery Replacement

- Using a small Phillips screwdriver, remove screws from back case.
- Remove protective cover. Starting from the bottom, carefully separate front from back. Caution: Be careful not to damage any internal parts.
- Using a small Phillips screwdriver (if necessary), remove old battery; replace with new one.
 

**Caution:** Avoid contact with other TI-30X II components while changing the battery.
- If necessary, press [ON] and [CLEAR] at the same time to reset the TI-30X II (clears memory and all settings).

**Caution:** Dispose of old batteries properly. Do not incinerate batteries or leave where a child can find them.

## In Case of Difficulty

Review instructions to be certain calculations were performed properly.

Press [ON] and [CLEAR] at the same time. This clears all memory and settings.

Check the battery to ensure that it is fresh and properly installed.

Change the battery when:

- [ON] does not turn the unit on, or
- The screen goes blank, or
- You get unexpected results.

To continue using the TI-30X IIS (Battery/Solar)\* until you can change the battery:

- Expose the solar panel to brighter light.
- Press [ON] and [CLEAR] at the same time to reset the calculator. This clears all settings and memory.

\* Operates in well-lit areas using solar cell. Operates in other light settings using battery.

## TI Product Service and Warranty Information

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For general questions, contact Texas Instruments Customer Support:

phone: **1-800-TI-CARES**  
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e-mail: **ti-cares@ti.com**

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$\uparrow \downarrow \leftarrow \rightarrow$	$1 \text{ [1] [ENTER]}$	$1+1$	$2.$ DEG
	$2 \text{ [2] [ENTER]}$	$2+2$	$4.$ DEG
	$3 \text{ [3] [ENTER]}$	$3+3$	$6.$ DEG
	$4 \text{ [4] [ENTER]}$	$4+4$	$8.$ DEG
$\odot \ominus \omin�$		$2+2$	$\downarrow$ DEG
$\leftarrow \rightarrow$	$2 \text{ [2nd] [2] [ENTER]}$	$2+2+2$	$6.$ DEG

$2 \text{ [2nd] [ANS]}$			
ANS	$3 \text{ [3] [ENTER]}$	$3*3$	$9.$ DEG
	$\text{[3] [ENTER]}$	Ans*3	$27.$ DEG
	$3 \text{ [2nd] [x]} \text{ [2nd] [ANS] [ENTER]}$	$3 \times \sqrt{\text{Ans}}$	$3.$ DEG

$+$	$60 \text{ [6] [5] [x] [12] [ENTER]}$	$60+5*12$	$120.$ DEG
$(-)$	$1 \text{ [1] [(-)] [8] [12] [ENTER]}$	$1+(-)8+12$	$5.$ DEG
$( )$	$2 \text{ [2nd] [sqrt]} \text{ [4] [ENTER]}$	$\sqrt{(4)}$	$2.$ DEG
	$4 \text{ [4] [2] [2] [3] [ENTER]}$	$4*(2+3)$	$20.$ DEG
	$4 \text{ [(2] [2] [3] [ENTER]}$	$4(2+3)$	$20.$ DEG

$2 \text{ [2nd] [%]}$			
%	$5 \text{ [2nd] [%] [x] [250] [ENTER]}$	$5%*250$	$12.5$ DEG

$\text{[Ab/c]}$	$2 \text{ [2nd] [Ab/c] [0/6]}$	$2 \text{ [2nd] [F<=>D]}$	
	$-6 \frac{4}{6} + 2 = -4 \frac{2}{3}$		
A b/c	$6 \text{ [Ab/c] [4] [Ab/c] [6] [2] [ENTER]}$	$-6 \frac{4}{6} + 2$	$-4 \frac{2}{3}$ DEG
	$1/2 \times \pi = 1.570796327$		
A b/c	$1 \text{ [Ab/c] [2] [x] [pi] [ENTER]}$	$1 \frac{2}{2} * \pi$	$1.570796327$ DEG
	$9/2 \rightarrow 4 \frac{1}{2}$		
A b/c $\leftrightarrow$ d/e	$9 \text{ [Ab/c] [2] [2nd] [Ab/c] [0/6] [ENTER]}$	$9 \frac{2}{2} \rightarrow \text{Ab/c} \leftrightarrow \text{d/e}$	$4 \frac{1}{2}$ DEG
	$4 \frac{1}{2} \rightarrow 5$		
F<=>D	$4 \text{ [Ab/c] [1] [Ab/c] [2] [2nd] [F<=>D] [ENTER]}$	$4 \frac{1}{2} \rightarrow \text{F<=>D}$	$4.5$ DEG

$\text{[x^-]}$	$2 \text{ [2nd] [x^-] [1] [Ab/c] [2] [x^-] [ENTER]}$	$2*(1 \frac{2}{2})^{-1}$	$4.$ DEG
x <sup>-1</sup>			
x <sup>2</sup>	$2 \text{ [x^2] [2] [ENTER]}$	$2^2+2$	$6.$ DEG
$\sqrt{\quad}$	$2 \text{ [2nd] [sqrt] [25] [ENTER]}$	$\sqrt{(25)}$	$5.$ DEG
$\wedge$	$5 \text{ [^] [3] [ENTER]}$	$5^3$	$125.$ DEG
x $\sqrt{\quad}$	$3 \text{ [2nd] [x sqrt] [8] [ENTER]}$	$3 \times \sqrt{8}$	$2.$ DEG

$\text{[LOG]}$	$\text{[LN]}$	$2 \text{ [2nd] [10^x]}$	$2 \text{ [2nd] [e^x]}$
LOG	$\text{[LOG] [1] [ENTER]}$	$\log(1)$	$0.$ DEG
LN	$\text{[LN] [15] [x] [2] [ENTER]}$	$\ln(15)*2$	$5.416100402$ DEG
10 <sup>x</sup>	$2 \text{ [2nd] [10^x] [2] [x] [10] [x^2] [ENTER]}$	$10^{(2)} - 10^2$	$0.$ DEG
e <sup>x</sup>	$2 \text{ [2nd] [e^x] [5] [ENTER]}$	$e^{(5)}$	$1.648721271$ DEG
		$e=2.71828182846$	

$\text{[pi]}$			
$\pi$	$2 \text{ [x] [pi] [ENTER]}$	$2*\pi$	$6.283185307$ DEG

DRG	$\text{[CLEAR]}$		$\uparrow$ DEG
	$\text{[DRG] [D]}$		DEG RAD GRD
	$\text{[ENTER]}$		DEG
$\circ \prime \prime$	$\text{[SIN] [30] [ENTER]}$	$\sin(30^\circ)$	$0.5$ RAD
	$\text{[ENTER] [1] [ENTER]}$		DEG
DRG	$\text{[CLEAR] [DRG] [D]}$		DEG RAD GRD
	$\text{[ENTER] [2] [pi] [ENTER] [D] [D] [D]}$	$2\pi^r$	$360$ DEG
$\circ \prime \prime$	$1.5 \text{ [DMS] [D]}$	$\leftarrow \text{DMS}$	DEG
	$\text{[ENTER] [ENTER]}$	$1.5 \text{ DMS}$	$1^\circ 30' 0''$ DEG

$\text{[SIN]}$	$\text{[COS]}$	$\text{[TAN]}$	
$2 \text{ [2nd] [SIN^-1]}$	$2 \text{ [2nd] [COS^-1]}$	$2 \text{ [2nd] [TAN^-1]}$	
TAN	$\text{[TAN] [45] [ENTER]}$	$\tan(45)$	$1.$ DEG
TAN <sup>-1</sup>	$2 \text{ [2nd] [TAN^-1] [1] [ENTER]}$	$\tan^{-1}(1)$	$45$ DEG
COS	$5 \text{ [x] [COS] [75] [ENTER]}$	$5*\cos(75)$	$1.294095226$ DEG

$2 \text{ [2nd] [HYP]}$			
DRG	$\text{[DRG] [D]}$		DEG RAD GRD
HYP	$\text{[ENTER] [2nd] [HYP] [SIN] [5] [D] [2] [ENTER]}$	$\sinh(5)+2$	$76.20321058$ DEG
	$\text{[D] [2nd] [HYP] [2nd] [SIN^-1] [ENTER]}$	$\sinh^{-1}(5)+2$	$4.312438341$ DEG

$2 \text{ [2nd] [R<=>P]}$			
R<=>P	$2 \text{ [2nd] [R<=>P]}$	$\text{RPr R} \rightarrow \text{P} \rightarrow$	DEG
	$5 \text{ [2nd] [.] [30] [ENTER]}$	$\text{RPr (5,30)}$	$30.41381265$ DEG
	$\text{[D] [2nd] [R<=>P] [D]}$	$\text{RPr R} \rightarrow \text{P} \rightarrow$	DEG
	$\text{[ENTER] [ENTER]}$	$\text{R} \rightarrow \text{P} (5,30)$	$80.53767779$ DEG

2nd [K]		
K	2nd [K]	K= DEG
	$\times$ 2 + 3 ENTER	K=*2+3 DEG K
	4 ENTER	4*2+3 DEG K
	6 ENTER	6*2+3 DEG K
	2nd [K] 2nd [K] CLEAR $\times^2$ ENTER	K=2 DEG K
	5 ENTER	5 <sup>2</sup> DEG K
	20 ENTER	20 <sup>2</sup> DEG K
	2nd [K] 1 + 1 ENTER	1+1 DEG

2nd [CLRVAR] STO 2nd [RCL] MEMVAR		
CLRVAR	2nd [CLRVAR]	DEG
STO	15 STO	$\rightarrow$ A B C D E $\rightarrow$ DEG
	ENTER	15 $\rightarrow$ A DEG
	$\pi$	$\pi$ DEG
RCL	2nd [RCL]	A B C D E DEG
	ENTER $\times^2$ ENTER	$\pi$ 15 <sup>2</sup> DEG
	STO $\rightarrow$	$\rightarrow$ A B C D E $\rightarrow$ DEG
	ENTER	Ans $\rightarrow$ B DEG
MEM VAR	MEMVAR $\rightarrow$	A B C D E DEG
	ENTER $\div$ 4 ENTER	B/4 DEG

2nd [FIX] 2nd [SCI/ENG] 2nd [EE]		
FIX	$\pi$ ENTER	$\pi$ DEG
	2nd [FIX]	F0123456789 DEG
	2	3.14 DEG
	2nd [FIX] $\square$	3.141592654 DEG
SCI/ENG	1 2 3 4 5	12345 DEG
	2nd [SCI/ENG] $\downarrow$	FLO SCI ENG DEG
	ENTER ENTER	12345 <sup>04</sup> SCI DEG
	2nd [SCI/ENG] $\downarrow$	FLO SCI ENG DEG
	ENTER	12.345 <sup>03</sup> ENG DEG
EE	1 . 2 3 4 2nd [EE] (-) 6 5 ENTER	1.234 E-65 <sup>66</sup> ENG DEG

2nd [STAT] DATA STATVAR 2nd [EXIT STAT]		
1-VAR: {45, 55, 55, 55}		
STAT	2nd [STAT]	1-VAR 2-VAR $\rightarrow$ DEG
DATA	ENTER DATA 4 5	X1=45 $\updownarrow$ STAT DEG
	$\odot$	FRQ=1 $\updownarrow$ STAT DEG
	$\odot$ 55 $\odot$	X2=55 $\updownarrow$ STAT DEG
	$\odot$ 3 ENTER	FRQ=3 $\updownarrow$ STAT DEG
STAT VAR	STATVAR $\downarrow$ $\downarrow$ $\downarrow$	n $\bar{x}$ Sx $\sigma_x$ $\rightarrow$ 4.330127019 STAT DEG
	$\times$ 2 ENTER	$\sigma_x$ *2 8.660254038 STAT DEG
STAT	2nd [STAT] $\downarrow$	$\leftarrow$ CLRDATA STAT DEG
	ENTER	STAT DEG

2-VAR: (45,30); (55,25); x'(45)		
STAT	2nd [STAT] $\downarrow$	1-VAR 2-VAR $\rightarrow$ DEG
DATA	ENTER DATA 4 5	X1=45 $\updownarrow$ STAT DEG
	$\odot$ 30	Y1=30 $\updownarrow$ STAT DEG
	$\odot$ 55	X2=55 $\updownarrow$ STAT DEG
	$\odot$ 25	Y2=25 $\updownarrow$ STAT DEG
STAT VAR	$\odot$ STATVAR $\downarrow$ $\downarrow$	$\leftarrow$ X' Y' STAT DEG
	4 5 $\downarrow$ ENTER	x'(45) 15. STAT DEG
EXIT STAT	2nd [EXIT STAT]	EXIT ST: Y N STAT DEG
	ENTER	DEG

<b>nPr</b>	8	8 <sup>^</sup> DEG
	<b>PRB</b>	nPr nCr ! → DEG
	3 <b>ENTER</b>	8 nPr 3 <sup>^</sup> 336. DEG
<b>nCr</b>	5 2	52 <sup>^</sup> DEG
	<b>PRB</b> ⏴	nPr nCr ! →
	5 <b>ENTER</b>	52 nCr 5 <sup>^</sup> 2598960. DEG
<b>!</b>	4	4 <sup>^</sup> DEG
	<b>PRB</b> ⏴ ⏴	nPr nCr ! →
	<b>ENTER</b> <b>ENTER</b>	4! <sup>^</sup> 24. DEG
<b>STO</b> →rand	5 <b>STO</b> → ⏴	← rand 660000. DEG
	<b>ENTER</b>	5→rand <sup>^</sup> 5. DEG
<b>RAND</b>	<b>PRB</b> ⏴ ⏴	← RAND RANDI DEG
	<b>ENTER</b> <b>ENTER</b>	RAND <sup>^</sup> .000093165 DEG
<b>RANDI</b>	<b>PRB</b> ⏴	← RAND RANDI DEG
	3 <b>2nd</b> [,] 5 <b>ENTER</b>	RANDI(3,5) <sup>^</sup> 4. DEG



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