

## Switch the Calculator On/Off

**[on]** turns on the calculator. **[2nd] [off]** turns it off. The display is cleared, but the history, settings, and memory are retained.

## Adjust the Display Contrast

<b>[2nd] [+]</b>	Darkens the screen.
<b>[2nd] [-]</b>	Lightens the screen.

## Home Screen

On the Home screen, you can enter expressions, functions, other instructions, and view the answers. For entries and expressions of more than 16 characters, you can scroll left and right (**[←]** and **[→]**) to view the entire entry or expression.

Special indicators may display on the screen to provide additional information concerning functions or results.

2nd	2nd function.
HYP	Hyperbolic function.
FIX	Fixed-decimal setting.
SCI, ENG	Scientific or engineering notation.
DEG, RAD, GRAD	Angle mode (degrees, radians, or gradians).
K	Constant feature is on.
L1, L2, L3	Displays above the lists in data editor.
	The calculator is performing an operation.
↑↓	An entry is stored in memory. Press <b>[←]</b> and <b>[→]</b> to scroll.
◀▶	An entry or menu displays beyond 16 digits. Press <b>[←]</b> or <b>[→]</b> to scroll.

## 2nd Functions

Most keys can perform two functions. The primary function is indicated on the key and the secondary function is displayed above it. Press **[2nd]** to activate the secondary function of a given key. Notice that **2ND** appears as an indicator on the screen. To cancel it before entering data, press **[2nd]** again.

## Modes

Press **[mode]** and use **[←]** **[→]** **[←]** **[→]** to highlight a mode, and **[enter]** to select it.

<b>DEG RAD GRAD</b>	Angle mode.
<b>NORM SCI ENG</b>	Numeric notation mode.
<b>FLOAT 0 ... 9</b>	Decimal notation mode.
<b>CLASSIC MATHPRINT</b>	Display format.

## Menus

The following menus give you access to additional calculator functions. Some keys may display more than one menu.

<b>[prb]</b>	<b>[2nd] [angle]</b>	<b>[2nd] [stat]</b>	<b>[2nd] [clear var]</b>
<b>[data]</b>	<b>[2nd] [reset]</b>	<b>[2nd] [recall]</b>	
<b>[data]</b>			

To navigate in a menu:

<b>[←]</b> and <b>[→]</b>	Scrolls within a menu.
0 ... 9	Selects a menu item.
<b>[clear]</b>	Returns to the previous screen.
<b>[2nd] [quit]</b>	Exits a menu.

## Scrolling Expressions/Entries

<b>[←]</b> or <b>[→]</b>	Places the cursor over the expression.
<b>[2nd] [←]</b> or <b>[2nd] [→]</b>	Moves the cursor to the beginning or end of an expression.
<b>[←]</b> and <b>[→]</b>	Scrolls the cursor through previous entries.

## Answer Toggle

Press **[↔]** to toggle between fraction and decimal, exact square root and decimal, and exact pi and decimal.

## Last Answer

The last entry performed on the home screen is stored to the variable **Ans**. To recall the value of **Ans**:

- Press **[2nd] [ans]**, or
- Press any operations key in most edit lines.

## Example

<b>Ans</b>	<b>3</b> <b>[×]</b> <b>3</b> <b>[enter]</b>	$3 \times 3$	$9$
	<b>[×]</b> <b>3</b> <b>[enter]</b>	$3 \times 3$ $ans \times 3$	$9$ $27$
	<b>3</b> <b>[2nd] [x<sup>-1</sup>]</b> <b>[2nd] [ans]</b> <b>[enter]</b>	$3 \times 3$ $ans \times 3$ $\sqrt{ans}$	$9$ $27$ $3$

## Order of Operations

The Equation Operating System (EOS™) evaluates expressions left to right and in this order:

1st	Expressions inside parentheses.
2nd	Functions that need a ) and precede the argument.
3rd	Fractions.
4th	Functions that are entered after the argument, such as $x^2$ .
5th	Exponentiation ( $^$ ) and roots ( $\sqrt{\quad}$ ).
6th	Negation ( $-$ ).
7th	Permutations ( <b>nPr</b> ) and combinations ( <b>nCr</b> ).
8th	Multiplication, implied multiplication, and division.
9th	Addition and subtraction.
10th	Conversions such as <b>n/d</b> <b>→</b> <b>Un/d</b> , <b>F</b> <b>→</b> <b>D</b> , <b>→DMS</b> .
11th	<b>[enter]</b> completes all operations and closes all open parentheses.

## Examples

$+ \times \div -$	<b>60</b> <b>[+]</b> <b>5</b> <b>[×]</b> <b>(-)</b> <b>12</b> <b>[enter]</b>	$60 + 5 \times -12$	$0$
( )	<b>4</b> <b>[×]</b> <b>(</b> <b>2</b> <b>[+]</b> <b>3</b> <b>)</b> <b>[enter]</b>	$4 \times (2 + 3)$	$20$
	<b>4</b> <b>(</b> <b>2</b> <b>[+]</b> <b>3</b> <b>)</b> <b>[enter]</b>	$4(2 + 3)$	$20$

## Clearing and Correcting

<b>[clear]</b>	Clears error messages or characters on entry line.
<b>[delete]</b>	Deletes characters at the cursor.
<b>[2nd] [insert]</b>	Inserts characters at the cursor.
<b>[2nd] [clear var]</b> <b>1</b>	Clears variables <b>x</b> , <b>y</b> , <b>z</b> , <b>t</b> , <b>a</b> , <b>b</b> , and <b>c</b> .
<b>[2nd] [reset]</b> <b>2</b>	Resets the calculator to all default states. Clears memory.

## Memory and Stored Variables

Real or complex numbers or expression results can be stored to one of eight memory variables: **x**, **y**, **z**, **t**, **a**, **b**, and **c**.

<b>[sto▶]</b>	Stores values to variables.
$x^y z t$	Cycles through the variable names and pastes values.
<b>[2nd] [recall]</b>	Recalls the values of variables.
<b>[2nd] [clear var]</b> <b>1</b>	Clears variable values.

## Example

Store	<b>15</b> <b>[sto▶]</b> $x^y z t$ <b>[enter]</b>	$15 \rightarrow x$	$15$
Recall	<b>[2nd] [recall]</b>	<b>Recall Var</b> $15 \rightarrow x = 15$ $2 \rightarrow y = 0$ $3 \rightarrow z = 0$	
	<b>[enter]</b> $x^2$ <b>[enter]</b>	$15 \rightarrow x$ $15^2$	$15$ $225$

## Function Table

**[table]** allows you to display a defined function in a tabular form. To set up a function table:

- Press **[table]**.
- Enter a function and press **[enter]**.
- Select the table start, table step, auto, or ask- $x$  options and press **[enter]**.

The table is displayed using the specified values.

Start	Specifies the starting value for the independent variable, $x$ .
Step	Specifies the incremental value for the independent variable, $x$ .
Auto	The calculator automatically generates a series of values based on table start and table step.
Ask- $x$	Lets you build a table manually by entering specific values for the independent variable, $x$ .

## Example

<b>[table]</b> $x^y z t$ <b>(</b> <b>36</b> <b>-</b> $x^y z t$ <b>)</b> <b>[enter]</b>	$y = x(36 - x)$
<b>[table]</b> $x^y z t$ <b>(</b> <b>36</b> <b>-</b> $x^y z t$ <b>)</b> <b>[enter]</b>	Start=0 Step=1 Auto Ask-x OK
<b>[clear]</b> <b>15</b> <b>[←]</b> <b>[clear]</b> <b>3</b> <b>[←]</b> <b>[←]</b> <b>[enter]</b>	Start=15 Step=3 Auto Ask-x OK
<b>[table]</b> $x^y z t$ <b>(</b> <b>36</b> <b>-</b> $x^y z t$ <b>)</b> <b>[enter]</b>	$\frac{x}{15}$ $\frac{y}{36-x}$ $\frac{15}{15}$ $\frac{36-15}{36-15}$ $\frac{21}{15}$ $\frac{36-21}{36-15}$ $x=15$

## Fractions

<b>[<math>\frac{\square}{\square}</math>]</b>	Enters simple fractions.
<b>[2nd] [U<math>\frac{\square}{\square}</math>]</b>	Enters mixed numbers.
<b>[2nd] [<math>\frac{\square}{\square} \leftrightarrow U\frac{\square}{\square}</math>]</b>	Converts between simple and mixed fractions.
<b>[2nd] [f <math>\leftrightarrow</math> d]</b>	Converts results between fractions and decimals.

## Examples

n/d, Un/d	$\frac{3}{4}$ <b>3</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>4</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>[+]</b> <b>1</b> <b>[2nd] [U<math>\frac{\square}{\square}</math>]</b> <b>7</b> <b>[<math>\frac{\square}{\square} \leftrightarrow U\frac{\square}{\square}</math>]</b> <b>[enter]</b>	$\frac{3}{4} + 1\frac{7}{2}$
n/d $\leftrightarrow$ Un/d	<b>9</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>2</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>[2nd] [<math>\frac{\square}{\square} \leftrightarrow U\frac{\square}{\square}</math>]</b> <b>[enter]</b>	$\frac{9}{2} \leftrightarrow 4\frac{1}{2}$
F $\leftrightarrow$ D	<b>4</b> <b>[2nd] [U<math>\frac{\square}{\square}</math>]</b> <b>1</b> <b>[<math>\frac{\square}{\square} \leftrightarrow U\frac{\square}{\square}</math>]</b> <b>[2nd] [<math>\frac{\square}{\square}</math>]</b> <b>[f <math>\leftrightarrow</math> d]</b> <b>[enter]</b>	$4\frac{1}{2} \leftrightarrow 4.5$

## Percentages

Press **[2nd] [%]** after entering the value of the percentage.

<b>3</b> <b>[2nd] [%]</b> <b>[×]</b> <b>5000</b> <b>[enter]</b>	$3\% \times 5000$	$150$
<b>[+]</b> <b>2.3</b> <b>[2nd] [%]</b> <b>[×]</b> <b>7300</b> <b>[enter]</b>	$3\% \times 5000$ $Ans + 2.3\% \times 7300$	$150$ $317.9$
<b>[×]</b> <b>280</b> <b>[enter]</b>	$3\% \times 5000$ $Ans + 2.3\% \times 7300$ $Ans \times 280$	$150$ $317.9$ $89012$

## $x10^n$ Key

Press **[ $\times 10^n$ ]** to enter a number in scientific notation format. Use parentheses to compute the correct order of operation.

<b>[mode]</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>[enter]</b>	$\frac{2 \times 10^3}{4 \times 10^5} \div 5 \times 10^{-3}$
<b>[clear]</b> <b>(</b> <b>2</b> <b>[<math>\times 10^n</math>]</b> <b>)</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>3</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>(</b> <b>4</b> <b>[<math>\times 10^n</math>]</b> <b>)</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>5</b> <b>[<math>\frac{\square}{\square}</math>]</b> <b>[enter]</b>	$(2 \times 10^3) \div (4 \times 10^5) \div 5 \times 10^{-3}$

## Powers, Roots and Inverses

$x^2$	Calculates the square of a value.	$5^2 + 4(2 + 1)$	$89$
$\wedge$	Raises a value to the power indicated.	$10^{-2}$	$\frac{1}{100}$
<b>[2nd] [<math>\sqrt{\quad}</math>]</b>	Calculates the square root of a positive value.	$\sqrt{3^2 + 2^4}$	$5$
<b>[2nd] [<math>x^{\square}</math>]</b>	Calculates the $n$ th root of any positive value and any odd integer root of a negative value.	$\sqrt[6]{64}$	$2$
$x^{-1}$	Gives the inverse of a value: $1/x$ .	$2^{-1}$	$\frac{1}{2}$

## Logarithm and Exponential Functions

<b>log</b>	Yields the common logarithm of a number.
<b>ln</b>	Yields the logarithm of a number to the base e.
<b>2nd</b> $[10^x]$	Raises 10 to the specified power.
<b>2nd</b> $[e^x]$	Raises e to the specified power.

### Examples

LOG	<b>log</b> 1 <b>enter</b>	$\log(1)$ 0
LN	<b>ln</b> 5 <b>enter</b> <b>x</b> 2 <b>enter</b>	$\log(5) \times 2$ 3.218875825
$10^x$	<b>2nd</b> $[10^x]$ <b>log</b> 2 <b>enter</b> <b>enter</b> <b>log</b> <b>2nd</b> $[10^x]$ 5 <b>enter</b> <b>enter</b>	$10^{\log(2)}$ 2 $\log(10^5)$ 5
$e^x$	<b>2nd</b> $[e^x]$ .5 <b>enter</b>	$e^{.5}$ 1.648721271

CAUTION: Do not expose battery to temperatures above 60 °C (140 °F). Do not disassemble or mistreat battery. Replace only with a TI approved battery. See the guidebook for additional safety instructions.

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30XMV/RC/1L1/D

## Angle Menu

**2nd**  $[angle]$  displays two submenus that enable you to specify the angle unit modifier as degrees (°), minutes ('), seconds ("); radian (r); gradian (g), or convert units using **DMS**. You can also convert between rectangular coordinate form (R) and polar coordinate form (P).

Choose an angle mode from the mode screen. You can choose from DEG (default), RAD, or GRAD. Entries are interpreted and results displayed according to the angle mode setting without needing to enter an angle unit modifier.

### Examples

RAD	<b>mode</b> <b>enter</b>	DEG RAD GRAD RAD SCI ENG PL00 0 1 2 3 4 5 6 7 8 9 CLASSIC <b>FRAC</b> <b>F1/F2</b>
	<b>clear</b> <b>sin</b> 30 <b>2nd</b> $[angle]$	$\sin(30^\circ)$ .5
DEG	<b>mode</b> <b>enter</b>	DEG RAD GRAD RAD SCI ENG PL00 0 1 2 3 4 5 6 7 8 9 CLASSIC <b>FRAC</b> <b>F1/F2</b>
	<b>clear</b> 2 <b>π</b> <b>2nd</b> $[angle]$ 4 <b>enter</b>	$\sin(30^\circ)$ $2\pi^r$ 360
<b>DMS</b>	1.5 <b>2nd</b> $[angle]$ 6 <b>enter</b>	$\sin(30^\circ)$ $2\pi^r$ 1.5 <b>DMS</b> 1°30'0"

## Rectangular to Polar

**2nd**  $[angle]$  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.

### Example

Convert polar coordinates (r,θ) = (5,30) into rectangular coordinates. Then convert rectangular coordinates (x,y) = (3,4) into polar coordinates. Round the results to one decimal place.

<b>R</b> <b>P</b>	<b>clear</b> <b>mode</b> <b>enter</b>	DEG RAD GRAD RAD SCI ENG PL00 0 1 2 3 4 5 6 7 8 9 CLASSIC <b>FRAC</b> <b>F1/F2</b>
	<b>clear</b> <b>2nd</b> $[angle]$ 3 <b>enter</b> 5 <b>2nd</b> $[,]$ 30 <b>enter</b> <b>2nd</b> $[angle]$ 4 <b>enter</b> 5 <b>2nd</b> $[,]$ 30 <b>enter</b>	P>R<(5,30) 4 P>R<(5,30) 2.618 P>R<(3,4) 5.0 P>R<(3,4) 53.1
	<b>2nd</b> $[angle]$ 1 <b>enter</b> 3 <b>2nd</b> $[,]$ 4 <b>enter</b> <b>2nd</b> $[angle]$ 2 <b>enter</b> 3 <b>2nd</b> $[,]$ 4 <b>enter</b>	P>R<(5,30) 4 P>R<(5,30) 2.618 P>R<(3,4) 5.0 P>R<(3,4) 53.1

Converting (r,θ) = (5,30) gives (x,y) = (4.3,2.5) and converting (x,y) = (3,4) gives (r,θ) = (5.0,53.1).

## Pi

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

$\pi$	2 <b>x</b> <b>π</b> <b>enter</b>	$2 * \pi$ $2\pi^+$ 6.283185307
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## Trigonometry

Press **sin** **cos** **tan** or **2nd**  $[\sin^{-1}]$   $[\cos^{-1}]$   $[\tan^{-1}]$  to access the corresponding trigonometric or inverse trigonometric functions. Set the desired Angle mode before your calculation.

tan	<b>mode</b> <b>enter</b> <b>clear</b> <b>tan</b> 45 <b>enter</b>	$\tan(45)$ 1
$\tan^{-1}$	<b>clear</b> <b>2nd</b> $[\tan^{-1}]$ 1 <b>enter</b>	$\tan^{-1}(1)$ 45
COS	<b>clear</b> 5 <b>x</b> <b>cos</b> 60 <b>enter</b>	$5 * \cos(60)$ 2.5

## Hyperbolics

**2nd**  $[hyp]$  displays the HYP indicator and accesses the hyperbolic function of the next trigonometry key that you press.

HYP	<b>2nd</b> $[hyp]$ <b>sin</b> 5 <b>enter</b> 2 <b>enter</b>	$\sinh(5) + 2$ 76.20321058
	<b>clear</b> <b>2nd</b> $[hyp]$ <b>2nd</b> $[\sin^{-1}]$ <b>enter</b>	$\sinh(5) + 2$ $\sinh^{-1}(5) + 2$ 4.312438341

## FCC Caution

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## Statistics

<b>2nd</b> $[stat]$	Displays a menu with the following options: <b>1-Var Stats</b> and <b>2-Var Stats</b> .
<b>data</b>	Lets you enter and edit the data lists.

After calculating 1-Var or 2-Var stats, the **StatVars** menu displays and contains a secondary menu of statistical variables.

### 1-Var Example

Find the mean of {45,55,55,55}.

Data	<b>data</b> 45 <b>enter</b> 55 <b>enter</b> 55 <b>enter</b> 55 <b>enter</b>	<b>1-Var Stats</b> L1: 45, 55, 55, 55 L2: =
Stat	<b>2nd</b> $[stat]$ 1 <b>enter</b>	<b>1-Var Stats</b> 2: 2-Var Stats
	<b>enter</b>	<b>1-Var Stats</b> DATA: L1 L2 L3 FRQ: 001 L1 L2 L3 CALC
	<b>enter</b>	<b>1-Var L1:1</b> L1 n=4 Σ x=225 Σ x²=1150
Stat Var	<b>clear</b> <b>2nd</b> $[stat]$ 3 <b>enter</b>	$\bar{x}$ 52.5

## Canada Declaration

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.  
CAN ICES-3(B)/NMB-3(B)

## Data Editor and List Formulas

**data** lets you enter data in up to 3 lists. Each list can contain up to 42 items. Press **2nd**  $[<]$  to go to the top of a list, and **2nd**  $[>]$  to go to the bottom of a list.

List formulas accept all calculator functions. Numeric notation, decimal notation, and angle modes affect the display of an element (except fractional elements).

### Example

L1	<b>data</b> 1 <b>enter</b> 4 <b>enter</b> 2 <b>enter</b> 4 <b>enter</b> 3 <b>enter</b> 4 <b>enter</b> 4 <b>enter</b>	<b>L1: 1, 4, 2, 4, 3, 4, 4</b> L1: =
Formula	<b>data</b> <b>enter</b>	<b>1-Var Stats</b> 2: Clear L1 Frmla 3: Clear L2 Frmla
	<b>enter</b>	<b>L1: 1, 4, 2, 4, 3, 4, 4</b> L2: =
	<b>data</b> <b>enter</b> <b>2nd</b> $[<]$ <b>enter</b>	<b>L1: 1, 4, 2, 4, 3, 4, 4</b> L2: =
	<b>enter</b>	<b>L1: 1, 4, 2, 4, 3, 4, 4</b> L2: =

Notice L2 is calculated per the formula you entered, and L2(1)= in the author line is highlighted to indicate the list is the result of a formula.

## Probability

**prb** displays two menus: **PRB** and **RAND**.

**PRB** contains the following options:

<b>nPr</b>	Permutations of n items taken r at a time.
<b>nCr</b>	Combinations of n items taken r at a time.
<b>!</b>	Factorial of positive integers from 1 to n.

**RAND** contains the following options:

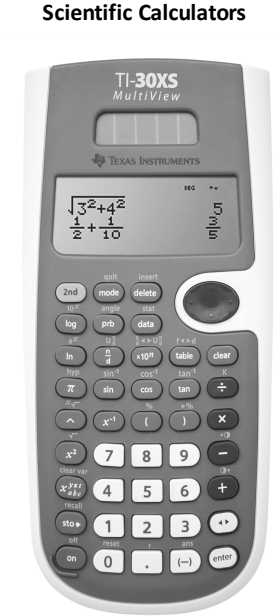
<b>rand</b>	Generates a random real number between 0 and 1. Store a value to <b>rand</b> to change the seed.
<b>randint(</b>	<b>randint(A,B)</b> generates a random integer between 2 integers, A and B.

## Constant

**2nd**  $[k]$  turns the Constant feature on and off. You can enter any combination of numbers, operators, and/or values, up to 44 characters.

<b>2nd</b> $[k]$	K=
<b>x</b> 2 <b>+</b> 3 <b>enter</b>	$K = 2 + 3$
4 <b>enter</b>	$4 * 2 + 3$ 11
6 <b>enter</b>	$4 * 2 + 3$ $6 * 2 + 3$ 11 15

## TI-30XS MultiView™ and TI-30XB MultiView™ Scientific Calculators



Support: [education.ti.com/ti-cares](http://education.ti.com/ti-cares)

### Limited Warranty

This warranty does not affect your statutory rights.

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