

How to use the Google calculator:

Google's calculator tries to understand the problem you are attempting to solve without requiring you to use special syntax. However, it may be helpful to know the most direct way to pose a question to get the best results. Listed below are a few suggestions for the most common type of expressions (and a few more esoteric ones).

Most operators come between the two numbers they combine, such as the plus sign in the expression $1+1$.

Operator Function Example

+ addition $3+44$

- subtraction $13-5$

* multiplication $7*8$

/ division $12/3$

^ exponentiation (raise to a power of) 8^2

% modulo (finds the remainder after division) $8\%7$

choose X choose Y determines the number of ways of choosing a set of Y elements from a set of X elements $18\text{ choose }4$

th root of calculates the nth root of a number 5th root of 32

% of X % of Y computes X percent of Y 20% of 150

Some operators work on only one number and should come before that number. In these cases, it often helps to put the number in parentheses.

Operator Function Example

sqrt square root $\text{sqrt}(9)$

sin, cos, etc. trigonometric functions (numbers are assumed to be radians) $\sin(\pi/3)$
 $\tan(45\text{ degrees})$

ln logarithm base e $\ln(17)$

log logarithm base 10 $\log(1,000)$

A few operators come after the number.

Operator Function Example

! factorial $5!$

Other good things to know

You can force the calculator to try and evaluate an expression by putting an equals sign (=) after it. This only works if the expression is mathematically resolvable. For example, $1-800-555-1234=$ will return a result, but $1/0=$ will not.

Parentheses can be used to enclose the parts of your expression that you want evaluated first. For example, $(1+2)*3$ causes the addition to happen before the multiplication.

The in operator is used to specify what units you want used to express the answer. Put the word in followed by the name of a unit at the end of your expression. This works well for unit conversions such as: 5 kilometers in miles.

You can use hexadecimal, octal and binary numbers. Prefix hexadecimal numbers with 0x, octal numbers with 0o and binary numbers with 0b. For example: $0x7f + 0b10010101$.

The calculator understands many different units, as well as many physical and mathematical constants. These can be used in your expression. Many of these constants and units have both long and short names. You can use either name in most cases. For example, km and kilometer both work, as do c and the speed of light.

Feel free to experiment with the calculator as not all of its capabilities are listed here. To get you started, we've included a few expressions linked to their results.

1 a.u./c

56*78

1.21 GW / 88 mph

$e^{i\pi}+1$

100 miles in kilometers

sine(30 degrees)

$G*(6e24\text{ kg})/(4000\text{ miles})^2$

0x7d3 in roman numerals

0b1100101*0b1001

More info on:

<http://www.google.co.in/help/calculator.html>