

Domain Glossary

-Conjunction	See “Compound Unit”.
/Conjunction	See “Compound Unit”.
Addition Rule	Two measures can only be added if they have like-units; the result is a measure with a like-unit (often one of the original units).
Backspace Button/Key	The key labeled "Backspace" or " ← " on a traditional physical or soft keyboard that deletes the character to the left of the cursor. Some traditional physical keyboards also have a “Delete” key that deletes the character to the right of the cursor.
Binary Expression	A left-side operand, followed by an operator, followed by a right-side operand. (See also: Equals Button/Key)
Binary Operation	An operation that takes a left-side operand and a right-side operand. Note: All binary operations use infix notation. That is, the operator is between the two operands.
Button	A widget on a graphical user interface that can be "pressed" with the mouse (i.e., by clicking on it). (See also: Soft Key)
Clear Button/Key	A button or key that can be used to reset the state of the calculator and clear the display.
Closed (Under an Operation)	A set is closed under an operation if the evaluation of that operation on members of the set always produces members of the set.
Compound Unit	Two units combined using either the -conjunction or the /conjunction (e.g., mi/hr, ft-lb). As its name implies, a compound unit is, itself, a unit and, hence, can be a part of another compound unit (e.g., lb/in ² is a compound unit comprised of lb and in ²).
Comparable Unit	Two compound units are comparable if they vary only in the order of the conjunction. For example, ft-lb and lb-ft are comparable units. As another example, mi/hr and hr/mi are comparable units. Measures with comparable units can be added and subtracted.

Conjunction	See “Compound Unit”.
Current Expression	The expression that is currently being added to or modified.
Digit	Loosely, a one-character number. Specifically, an element of the set {0, 1, 2, 3, 4, 5, 6, 7, 8, 9}.
Display	The GUI element/widget that is used to present the current expression (and related information) to the user.
Division Rule	Two measures can always be divided (regardless of their units); the result is a compound unit that uses the /conjunction (e.g., 10 mi divided by 2 hr is 5 mi/hr).
Enter Key	The key labeled "Enter" or "Return" on a traditional physical keyboard. Many keyboards have two Enter keys, one on the main section and on one the number pad.
Equals Button/Key	A button or key that can be used to evaluate a binary expression.
Focus	In a GUI, the widget that has the focus is the widget that will respond to input.
History	An ordered list of expressions (not including the current expression).
Input Field/Input Area	A GUI element that is used by a user to provide input to the system.
Key	A key on a physical keyboard (either the main section or the number pad).
Keyboard/Keypad	A collection of keys or a collection of buttons that are simulating keys. (See also: Physical Keyboard/Keypad and Soft Keyboard/Keypad)
Like-Units	Different units for the same physical property (e.g., ft and m are both units of length).
Measure	A number and a unit (e.g., 5 oz, 10 mi/hr) or a unitless number (e.g., 17).
Multiplication Rule	Two measures can always be multiplied (regardless of their units); the result is a compound unit that uses the -conjunction (e.g., 5 ft times 2 lb is 10 ft-lb).

Number Button/Key	A button or key that is used to input a single digit.
Number Pad	A collection of number keys or a collection of number buttons that are simulating number keys along with a collection of related operation keys/buttons. (See also: Physical Keyboard/Keypad and Soft Keyboard/Keypad)
Operand	A measure (either with or without units)
Operation Button/Key	A button or key that is used to input a binary or unary operation/operator.
Pending Operation	The (binary) operation that has not yet been evaluated (because the Enter Button/Key has not yet been pressed).
Physical Keyboard	A mechanical or electronic input device consisting of a set of labeled keys. Many physical keyboards have a main section (containing the alphabetic and numeric keys as well as some special--purpose keys), movement section containing arrow keys, a number pad, and a row of function keys (along the top).
Power Notation	The use of an exponent to display a compound unit that consists of two identical units combined by a -conjunction (e.g., in-in written as in ²).
Result	The result of evaluating a binary or unary expression.
Sign Button/Key	The button or key that is used to change the sign of the current mixed fraction.
Soft Key	Another name for a Button.
Soft Keyboard	A collection of Buttons.
Subtraction Rule	Two measures can only be subtracted if they have like-units; the result is a measure with a like-unit (often one of the original units).
Unit	A determinate quantity adopted as a standard of measurement (e.g., gram, meter, second) for a physical property (e.g., mass, length, time).
Unitless Number	A number that does not include a unit (e.g., 5). Operands can be unitless and the results of operations can be unitless (e.g., when a 6ft piece of wood is cut into 2ft pieces there are $6\text{ft}/2\text{ft}=3$ pieces).

Unit Simplification

The process of simplifying a "complicated" compound unit. Examples that only involve mechanical operations on the units include converting in-in to in^2 and converting mi/hr/hr to mi/hr^2 . Examples that include like-unit conversions are the simplification of Joules/sec to watts and the simplification of $\text{kg m}^2/\text{s}^2$ to N m .

Unary Operation

An operation that takes a single operand. Note: All unary operations use postfix notation. That is, the operator follows the operand.

Widget

A part of a graphical user interface. Widgets are sometimes also called controls. (See also: Button, Display, and Input Field.)