The Construction Master 5 calculator helps you save time, cut costly errors and build like a pro!

**Quickly Solve:**
- Feet-Inches-Fractions, Yards, Metric Dimensional Problems and Conversions
- Problems Involving All Fractions — 1/2-1/64ths!
- Areas, Volumes and Weights
- Circle/Arc Calculations
- Common, Hip/Valley, Jack Rafter Lengths (Regular and Irregular)
- Rake-Wall Solutions
- Concrete, Flooring Quantity
- Squaring-Up
- Stair Layout Solutions, and more!
TABLE OF CONTENTS

GETTING STARTED .............................................. 1
KEY DEFINITIONS/FUNCTIONS ...................... 1
  Basic Function Keys .................................. 1
  Dimension Keys ........................................ 2
Arc/Circle Keys ............................................. 4
Right Triangle/Roof Framing Keys ............... 4
Stair Layout Key ........................................... 7
Stair Settings ............................................. 8
Miscellaneous Functions ........................... 8
PAPERLESS TAPE EXAMPLE ....................... 10
PREFERENCE SETTINGS .............................. 11
ENTERING DIMENSIONS ................................. 13
  Linear Dimensions ...................................... 13
  Square and Cubic Dimensions ..................... 13
Linear Conversions ...................................... 14
Square and Cubic Conversions ..................... 15
BASIC MATH OPERATIONS .............................. 15
EXAMPLES .................................................. 16
  Adding and Subtracting Strings of
    Dimensions .......................................... 16
  Multiplying Dimensions ............................. 16
  Dividing Dimensions ................................ 17
  Percent Calculations ................................ 17
  Square Area ............................................ 18
  Rectangular Area and Volume ..................... 18
  Entering Square and Cubic and
    Adding a Waste Allowance ...................... 19
  Weight Conversions .................................. 19
  Weight per Volume .................................. 20
  Using the Memory .................................... 21
  Board Feet and Cost ................................ 22
  Carpentry — Calculating Number
    of Studs ............................................ 22
  Baluster Spacing .................................... 23
GETTING STARTED

KEY DEFINITIONS / FUNCTIONS

Basic Function Keys

+ – ×
Arithmetic operation keys.

÷

0 – 9
and 0
Keys used for entering numbers.

%
Percent Key — Four-function (+, −, ×, ÷) percent key.

Off
Off Key — Turns all power off, clearing all non-permanent registers.

On/C
On/Clear Key — Turns on power. Pressing once clears the display. Pressing twice clears all temporary values.

Conv
Convert Key — Used with the dimensional keys to convert between dimensions or with other keys to access special functions.

√
Square Root Key — Used to find the Square Root of a non-dimensional or area value.
Recall Key — Used with other keys to recall stored values and settings.

Memory Key — Adds the displayed value to Memory. Clears when the calculator is shut off.

Memory Minus (M–) — Subtracts the displayed value from Memory.

Memory Clear — Clears Memory without changing current display.

Memory Clear — Clears Memory and displays Memory Total.

Dimension Keys

Yards Key — Enters or converts to Yards.

Feet Key — Enters or converts to Feet as whole or decimal numbers. Also used with the Inch and / keys for entering Feet-Inch values (e.g., 6 Feet 9 Inch (1 / 2)). Repeated presses during conversions toggle between Fractional and Decimal Feet.
**Inch Key** — Enters or converts to Inches. Entry can be whole or decimal numbers. Also used with the / key for entering fractional inch values (e.g., 9 Inch 1 / 2). Repeated presses during conversions toggle between Fractional and Decimal Inches.

**Fraction Bar Key** — Used to enter Fractions. Fractions can be entered as proper (1/2, 1/8, 1/16) or improper (3/2, 9/8). If the denominator (bottom) is not entered, the calculator's fractional accuracy setting is automatically used.

**Meters Key** — Enters or converts to Meters.

**Centimeters Key** — Enters or converts to Centimeters.

**Millimeters Key** — Enters or converts to Millimeters.

**Board Feet Key** — Enters or converts Cubic values to Board Feet. One Board Foot is equal to 144 Cubic Inches.
**Weight Key** — Enters or converts (a volume value) to Tons, Pounds, Metric Tons or Kilograms. Repeated presses will cycle through these units.

**Arc/Circle Keys**

**Circ**

**Circle Key** — Calculates Circle Area and Circumference based on entered Diameter.

**Conv Circ**

**Arc** — Calculates Arc Length or Degree based on entered Diameter and Arc Degree or Length (e.g., if Arc Degree is entered, it will calculate Arc Length, and vice versa).

**Right Triangle/Roof Framing Keys**

**Pitch**

**Pitch Key** — This key is used to enter or calculate the Pitch (Slope) of a roof (or Right Triangle). Pitch is the amount of “Rise” over 12 Inches of “Run.” Pitch may be entered as:
a Dimension  9 Inch Pitch
an Angle   3 0 Pitch
a Ratio  0 • 7 5 Conv Pitch
a Percentage  7 5 % Pitch

A Pitch entry will remain in permanent storage until revised or reset. A solution will be replaced by its entered value once the calculator is cleared.

Enters Pitch Ratio (e.g., • 5 8 3 Conv Pitch).

Rise Key — Enters or calculates the Rise or vertical leg (height) of a Right Triangle.

Run Key — Enters or calculates the Run or horizontal leg (base) of a Right Triangle.

Diagonal Key — Enters or calculates the common or Diagonal leg (Hypotenuse) of a Right Triangle. Typical applications are “squaring” slabs or finding common rafter lengths.

Hip/Valley Key —
Calculates length of the Regular or Irregular Hip/Valley rafter.
Irregular Pitch — Enters Irregular Pitch used to calculate lengths of the Irregular Hip/Valley and Jack rafters.

Jack Key — Calculates Jack rafter lengths on the Regular-pitched roof side.


Rake-Wall Key — Finds the stud sizes based on entered Right Triangle values and the stored On-Center spacing. If a dimensional value is entered before pressing R/Wall, that value is considered the base and will be added to the stud lengths.
Stair Layout Key

**Stair Key** — Given Rise and/or Run and entered/stored variables, calculates or displays:

<table>
<thead>
<tr>
<th>Press</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Riser Height</td>
</tr>
<tr>
<td>2</td>
<td>Number of Risers</td>
</tr>
<tr>
<td>3</td>
<td>Riser Overage/Underage</td>
</tr>
<tr>
<td>4</td>
<td>Tread Width</td>
</tr>
<tr>
<td>5</td>
<td>Number of Treads</td>
</tr>
<tr>
<td>6</td>
<td>Tread Overage/Underage</td>
</tr>
<tr>
<td>7</td>
<td>Stringer Length</td>
</tr>
<tr>
<td>8</td>
<td>Angle of Incline</td>
</tr>
<tr>
<td>9</td>
<td>Stored Run</td>
</tr>
<tr>
<td>10</td>
<td>Stored Rise</td>
</tr>
<tr>
<td>11</td>
<td>Stored Desired Riser Height</td>
</tr>
<tr>
<td>12</td>
<td>Stored Desired Tread Width</td>
</tr>
</tbody>
</table>

**STAIR DEFAULT VALUES**

- 7-1/2” Desired Riser Height
- 10” Desired Tread Width
Stair Settings

You may set “desired Riser height” and “desired Tread width” to any value by using the following keys:

**Riser Height** — Stores a desired Riser height other than 7-1/2” (default). For example, enter 8 Inches: 
8 Inch Conv 7.

**Tread Width** — Stores a desired Tread width other than 10” (default). For example, enter 12 Inches: 
1 2 Inch Conv 9.

Miscellaneous Functions

**Backspace Key** — Used to delete entries one keystroke at a time (unlike the On/C function, which deletes the entire entry).

**1/x** — Finds the reciprocal of a number (e.g., 8 Conv 0.125).

**Clear All** — Returns all stored values to the default settings. (Does not affect Preference Settings.)

**(+/-) Toggle**

Pi (π) 3.141593
\( x^2 \) — Squares a linear or non-dimensional value.

**Total Cost** — Based on entry of per unit cost.

**Store Weight per Volume** — Stores a new Weight per Volume value as listed below:

*Note: After entering a value and pressing \( \text{Conv} \ 0 \), continue pressing the 0 digit key until you’ve reached the desired Weight per Volume format. To recall your setting, press \( \text{Rcl} \ 0 \).*

- Ton Per CU YD
- LB Per CU YD
- LB Per CU FEET
- MET Ton Per CU M
- kG Per CU M

This value is stored until you change it or perform a Clear All (\( \text{Conv} \ \times \)).

**On-Center Spacing (o.c.)** — Stores a new on-center spacing (e.g., \( 2 \ 4 \ \text{Inch} \ \text{Conv} \ 5 \)). The value is used for jack and rake wall stud calculations. Default is 16”.
Paperless Tape – Useful for checking figures, as it scrolls through your past 20 entries or calculations. Press Rcl to access Paperless Tape mode. Press + or – to scroll forward or backward. Press = to exit mode and continue with a new entry or calculation. See example below.

PAPERLESS TAPE EXAMPLE

Add 6 Feet, 5 Feet and 4 Feet, then access the paperless tape mode and scroll back through your entries. Then, back up one entry, exit the tape mode and add 10 Feet to the total.

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C</td>
<td>0.</td>
</tr>
<tr>
<td>6 Feet +</td>
<td>6 FEET 0 INCH</td>
</tr>
<tr>
<td>5 Feet +</td>
<td>11 FEET 0 INCH</td>
</tr>
<tr>
<td>4 Feet =</td>
<td>15 FEET 0 INCH</td>
</tr>
<tr>
<td>Rcl</td>
<td>TTL= 15 FEET 0 INCH</td>
</tr>
<tr>
<td>+</td>
<td>01 6 FEET 0 INCH</td>
</tr>
<tr>
<td>+</td>
<td>02 + 5 FEET 0 INCH</td>
</tr>
<tr>
<td>+</td>
<td>03 + 4 FEET 0 INCH</td>
</tr>
<tr>
<td>–</td>
<td>02 + 5 FEET 0 INCH</td>
</tr>
<tr>
<td>=</td>
<td>TTL= 15 FEET 0 INCH</td>
</tr>
<tr>
<td>+ 1 0 Feet =</td>
<td>25 FEET 0 INCH</td>
</tr>
</tbody>
</table>
PREFERENCE SETTINGS

Press **Conv**, then %, then keep pressing % to toggle through the main settings. Press the key to advance within sub-setting. Use the key to back up. Press key to exit Preferences.

PRESS

<table>
<thead>
<tr>
<th>PRESS</th>
<th>SETTING--FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conv AND:</strong></td>
<td><strong>First press of %:</strong> Fractional Resolution:</td>
</tr>
<tr>
<td></td>
<td>--1/16</td>
</tr>
<tr>
<td></td>
<td>--1/32</td>
</tr>
<tr>
<td></td>
<td>--1/64</td>
</tr>
<tr>
<td></td>
<td>--1/2</td>
</tr>
<tr>
<td></td>
<td>--1/4</td>
</tr>
<tr>
<td></td>
<td>--1/8</td>
</tr>
<tr>
<td></td>
<td>--1/16 (repeats options)</td>
</tr>
<tr>
<td></td>
<td><strong>Second press of %:</strong> Area Displays:</td>
</tr>
<tr>
<td></td>
<td>--Std.</td>
</tr>
<tr>
<td></td>
<td>--0. SQ FEET</td>
</tr>
<tr>
<td></td>
<td>--0. SQ YD</td>
</tr>
<tr>
<td></td>
<td>--0. SQ M</td>
</tr>
<tr>
<td></td>
<td>--Std. (repeats options)</td>
</tr>
<tr>
<td></td>
<td><strong>Third press of %:</strong> Volume Displays:</td>
</tr>
<tr>
<td></td>
<td>--Std.</td>
</tr>
<tr>
<td></td>
<td>--0. CU YD</td>
</tr>
<tr>
<td></td>
<td>--0. CU FEET</td>
</tr>
<tr>
<td></td>
<td>--0. CU M</td>
</tr>
<tr>
<td></td>
<td>--Std. (repeats options)</td>
</tr>
</tbody>
</table>

(Cont’d)
Fourth press of %:

**Meter Linear Displays:**

--0.000  M

++

--FLOAt  M (floating point)

++

--0.000  M (repeats options)

Fifth press of %:

**Decimal Degree Displays:**

--0.00º

++

--FLOAt (floating point)

++

--0.00º (repeats options)

Sixth press of %:

**Fractional Mode:**

--Std.

++

--COnSt

++

--Std. (repeats options)
Entering Dimensions

Linear Dimensions

When entering Feet-Inch values, enter dimensions from largest to smallest — Feet before Inches, Inches before Fractions. Enter Fractions by entering the numerator (top number), pressing \(\frac{1}{2}\) (Fraction Bar key) and then the denominator (bottom number).

Note: If a denominator is not entered, the fractional setting value is used.

Examples of how linear dimensions are entered (press On/C after each entry):

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>KEYSTROKES</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Yards</td>
<td>5 Yds</td>
</tr>
<tr>
<td>5 Feet 1-1/2 Inch</td>
<td>5 Feet 1 Inch 1 / 2</td>
</tr>
<tr>
<td>17.5 Meters</td>
<td>1 7 5 m</td>
</tr>
</tbody>
</table>

Square and Cubic Dimensions

Examples of how Square and Cubic dimensions are entered (press On/C after each entry):

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>KEYSTROKES</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Cubic Yards</td>
<td>5 Yds Yds Yds</td>
</tr>
<tr>
<td>130 Square Feet</td>
<td>1 3 0 Feet Feet</td>
</tr>
<tr>
<td>33 Square Meters</td>
<td>3 3 m m</td>
</tr>
</tbody>
</table>
### Linear Conversions

**Convert 10 Feet 6 Inches:**

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C On/C</td>
<td>0.</td>
</tr>
<tr>
<td>1 0 Feet 6 Inch</td>
<td>10 FEET 6 INCH</td>
</tr>
<tr>
<td>Conv Yds</td>
<td>3.5 YD</td>
</tr>
<tr>
<td>Conv Inch</td>
<td>126 INCH</td>
</tr>
<tr>
<td>Conv m</td>
<td>3.200 M</td>
</tr>
<tr>
<td>Conv cm</td>
<td>320.04 CM</td>
</tr>
<tr>
<td>Conv mm</td>
<td>3200.4 MM</td>
</tr>
</tbody>
</table>

**Convert 14 Feet 7-1/2 Inches to Decimal Feet:**

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C On/C</td>
<td>0.</td>
</tr>
<tr>
<td>1 4 Feet 7 Inch 1/2</td>
<td>14 FEET 7-1/2 INCH</td>
</tr>
<tr>
<td>Conv Feet</td>
<td>14.625 FEET</td>
</tr>
</tbody>
</table>

**Convert 22.75 Feet to Feet-Inches:**

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C On/C</td>
<td>0.</td>
</tr>
<tr>
<td>2 2 7 5 Feet</td>
<td>22.75 FEET</td>
</tr>
<tr>
<td>Conv Feet</td>
<td>22 FEET 9 INCH</td>
</tr>
</tbody>
</table>
Square and Cubic Conversions

Convert 14 Square Feet to Square Yards:

KEystroke Display
On/C On/C 0.
1 4 Feet Feet
Conv Yds 14 SQ FEET 1.555556 SQ YD (1.6 square yards)

Convert 25 Square Yards to Square Feet:

KEystroke Display
On/C On/C 0.
2 5 Yds Yds 25 SQ YD 225. SQ FEET
Conv Feet

Convert 12 Cubic Feet to Cubic Yards:

KEystroke Display
On/C On/C 0.
1 2 Feet Feet Feet 12 CU FEET 0.444444 CU YD
Conv Yds

BASIC MATH OPERATIONS

Your calculator uses standard chaining logic, which simply means that you enter your first value, the operator (+, −, ×, ÷), the second value and then the Equals sign (=).

A. 3 + 2 = 5.
B. 3 − 2 = 1.
C. 3 × 2 = 6.
D. 3 ÷ 2 = 1.5

This feature also makes the calculator simple to use for dimensional applications.
### Adding and Subtracting Strings of Dimensions

Add the following measurements:
- 6 Feet 2-1/2 Inches
- 11 Feet 5-1/4 Inches
- 18.25 Inches

Then subtract 2-1/8 Inches:

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C On/C</td>
<td>0.</td>
</tr>
<tr>
<td>6 Feet</td>
<td>2 Inch</td>
</tr>
<tr>
<td>1 1 Feet</td>
<td>5 Inch</td>
</tr>
<tr>
<td>1 8 Inch</td>
<td>2 5 Inch</td>
</tr>
<tr>
<td>− 2 Inch</td>
<td>1 / 8</td>
</tr>
</tbody>
</table>

### Multiplying Dimensions

What is the perimeter of a room with three walls which measure 15 Feet 3-3/4 Inches each?

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 × 1 5 Feet 3 Inch 3 / 4 =</td>
<td>45 FEET 11-1/4 INCH</td>
</tr>
</tbody>
</table>

Multiply 5 Feet 3 Inches by 11 Feet 6-1/2 Inches:

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Feet 3 Inch 1 1 Feet</td>
<td>60.59375 SQ FEET</td>
</tr>
</tbody>
</table>
Dividing Dimensions

Divide 15 Feet 3-3/4 Inches into thirds (divide by 3):

Keystroke Display
On/C On/C 0.
1 5 Feet 3 Inch 3 / 4 ÷ 3 =

5 FEET 1-1/4 INCH

How many 3-Foot 6-Inch pieces can you cut from one 25-foot board?

Keystroke Display
On/C On/C 0.
2 5 Feet ÷ 3 Feet 6 Inch = 7.142857
(or 7 whole pieces)

Percent Calculations

Add a 10% waste allowance to 2.78 Cubic Yards:

Keystroke Display
On/C On/C 0.
2 7 8 Yds Yds Yds + 1 0 %

3.058 CU YD

What is 25% of $1,575?

Keystroke Display
On/C On/C 0.
1 5 7 5 × 2 5 %

393.75
Square Area

Find the Area of a square room with sides measuring 15 Feet 8-1/2 Inches:

\[
\text{KEYSTROKE} \quad \text{DISPLAY} \\
\text{On/C} \quad \text{On/C} \\
1 \quad 5 \quad \text{Feet} \quad 8 \quad \text{Inch} \quad 1 \quad / \quad 2 \quad \text{Conv} \quad \sqrt{x} \quad (x^2) \\
0. \\
246.7517 \text{ SQ FEET}
\]

Rectangular Area and Volume

Find the Area and Volume:

- Length: 20 Feet 6-1/2 Inches
- Width: 12 Feet 8-1/2 Inches
- Height: 10 Inches

First, multiply the Length times the Width to find the Area. Then, multiply the Area times the Height to find the Volume:

\[
\text{KEYSTROKE} \quad \text{DISPLAY} \\
\text{On/C} \quad \text{On/C} \\
2 \quad 0 \quad \text{Feet} \quad 6 \quad \text{Inch} \quad 1 \quad / \quad 2 \quad \times \\
20 \text{ FEET 6-1/2 INCH} \\
1 \quad 2 \quad \text{Feet} \quad 8 \quad \text{Inch} \quad 1 \quad / \quad 2 \quad \times \\
261.0503 \text{ SQ FEET} \\
1 \quad 0 \quad \text{Inch} \quad \equiv \\
8.057109 \text{ CU YD}
\]

Convert to Feet:

\[
\text{KEYSTROKE} \quad \text{DISPLAY} \\
\text{Conv} \quad \text{Feet} \\
217.542 \text{ CU FEET}
\]
Entering Square and Cubic and Adding a Waste Allowance

Add a 10% waste allowance to 55 Square Feet. Then add a 20% waste allowance to 150 Cubic Feet:

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C  On/C</td>
<td>0.</td>
</tr>
<tr>
<td>5 5 Feet Feet + 10%</td>
<td>60.5 SQ FEET</td>
</tr>
<tr>
<td>1 5 0 Feet Feet Feet + 20%</td>
<td>180. CU FEET</td>
</tr>
</tbody>
</table>

Weight Conversions

Convert 150 Pounds to other weights (Tons, Metric Tons, Kilograms):

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C  On/C</td>
<td>0.</td>
</tr>
<tr>
<td>1 5 0 Weight Weight *</td>
<td>150 LB</td>
</tr>
<tr>
<td>Conv Weight</td>
<td>0.068039 MET Ton</td>
</tr>
<tr>
<td>Weight</td>
<td>68.03886 kG</td>
</tr>
<tr>
<td>Weight</td>
<td>0.075 Ton</td>
</tr>
</tbody>
</table>

*Calculator may not display Pounds upon first press of Weight; it depends on which unit was accessed last. So press Weight until LB (or desired unit) is displayed, then convert.
Weight per Volume

Convert 20 Cubic Yards of concrete to Tons, Pounds, Metric Tons and Kilograms, if concrete weighs 1.5 Tons per Cubic Yard (default value):

KEYSTROKE DISPLAY
On/C On/C 0.
2 0 Yds Yds Yds 20 CU YD 30. Ton*
Conv Weight 60000. LB
Weight 27.21554 MET Ton
Weight 27215.54 kG

Now convert the above, if concrete weighs 2 Tons per Cubic Yard (store new Weight per Volume value):

KEYSTROKE DISPLAY
2 Conv 0 STORED 2. Ton Per CU YD 20 CU YD 36287.39 kG*
2 0 Yds Yds Yds 40. Ton 80000. LB
Conv Weight 36.28739 MET Ton
Weight ALL CLEARED
Weight (Clear stored Wt/Vol)
Conv X

*Calculator will present values in a different order based on previous computation; simply continue to press Weight key until desired value is displayed.
Using the Memory

Whenever the \( M+ \) key is pressed, the displayed value will be added to the Memory. Other memory functions:

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>KEYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add to Memory</td>
<td>( M+ )</td>
</tr>
<tr>
<td>Subtract from Memory</td>
<td>Conv ( M+ )</td>
</tr>
<tr>
<td>Recall total in Memory</td>
<td>Rcl ( M+ )</td>
</tr>
<tr>
<td>Display/Clear Memory</td>
<td>Rcl Rcl</td>
</tr>
<tr>
<td>Clear Memory</td>
<td>Conv Rcl</td>
</tr>
</tbody>
</table>

Memory is semi-permanent, clearing only when you:

1) turn off the calculator;
2) press \( \text{Rcl Rcl} \)
3) press \( \text{Conv Rcl} \)
4) press \( \text{Conv X} \) (Clear All)

When memory is recalled (\( \text{Rcl M+} \)), consecutive presses of \( M+ \) will display the calculated average and total count of the accumulated values.

Example:

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 5 5 M+</td>
<td>M+ 355.</td>
</tr>
<tr>
<td>2 5 5 M+</td>
<td>M+ 255.</td>
</tr>
<tr>
<td>7 4 5 Conv M+</td>
<td>M- 745.</td>
</tr>
<tr>
<td>Rcl M+</td>
<td>TTL STORED — 135.</td>
</tr>
<tr>
<td>M+</td>
<td>AVG — 45.</td>
</tr>
<tr>
<td>M+</td>
<td>CNT 3.</td>
</tr>
<tr>
<td>Rcl Rcl</td>
<td>M+ — 135.</td>
</tr>
</tbody>
</table>
Board Feet and Cost

Find the total Board Feet for the following boards: 2x4x16, 2x10x18 and 2x12x20. What is the total cost at $275 per MBM*?

*Per thousand Board Foot measure

Find the total Board Feet for the following boards:

- 2x4x16
- 2x10x18
- 2x12x20

What is the total cost at $275 per MBM?

<table>
<thead>
<tr>
<th>KEYS</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>$275</td>
<td>$22.18</td>
</tr>
</tbody>
</table>

Carpentry — Calculating Number of studs

Find the number of 16-Inch On-Center studs needed for an 18 Feet 7-1/2 Inch wall.

1. Divide Length by spacing:
   - 0.
   - 18 Feet
   - 1
   - 7
   - 1/2

   18 FEET 7-1/2 INCH

   13.96875

(14 studs)

2. Add one for the end:
   - 14.96875

(15 studs)

Note: Also applies to trusses and joists.
Baluster Spacing

You are going to install a handrail at the top of a balcony. Your total span is 156 Inches and you would like the space between the balusters to be about 4 Inches. If each baluster is 1-1/2 Inches wide, what is the exact spacing between each baluster?

**KEYSTROKE**

1. Estimate number of balusters in Span:

   \[
   \frac{156 \text{ inch}}{1.5 \text{ inch}} = 28.3636 \approx 28 \text{ balusters}
   \]

   *Desired spacing plus baluster width (4 Inches plus 1-1/2 Inch)*

2. Find total space ‘occupied’ by the balusters by multiplying the width of each baluster by the rounded number of balusters (found above):

   \[
   1.5 \times 28 = 42 \text{ inch}
   \]

3. Find total space between all balusters:

   \[
   156 - 42 = 114 \text{ inch}
   \]

4. Find actual baluster spacing by dividing total space between all balusters by the number of spaces between the balusters (number of balusters plus one equals 29):

   \[
   \frac{114 \text{ inch}}{29} = 3\frac{15}{16} \text{ inch}
   \]
Circle Area and Circumference

Find the Area and Circumference of a Circle with a Diameter of 25 Inches:

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C On/C</td>
<td>0.</td>
</tr>
<tr>
<td>2 5 Inch Circ</td>
<td>DIA 25 INCH</td>
</tr>
<tr>
<td>Circ</td>
<td>AREA 490.8739 SQ INCH</td>
</tr>
<tr>
<td>Circ</td>
<td>CIRC 78-9/16 INCH</td>
</tr>
</tbody>
</table>

Arc Angle or Degree

Find the Arc Angle (or Degree of Arc), given a 5-Foot Diameter and an Arc Length of 3 Feet 3 Inches:

1. Enter Circle Diameter and Arc Length:
<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C On/C</td>
<td>0.</td>
</tr>
<tr>
<td>5 Feet Circ</td>
<td>DIA 5 FEET 0 INCH</td>
</tr>
<tr>
<td>3 Feet 3 Inch</td>
<td>3 FEET 3 INCH</td>
</tr>
</tbody>
</table>

2. Find Degree of Arc:
<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conv Circ</td>
<td>ARC 74.48°</td>
</tr>
</tbody>
</table>
Concrete Volume for Driveway

Calculate the Cubic Yards of concrete required to pour a driveway that measures: 45 Feet 5 Inches long x 13 Feet 6 Inches wide x 5 Inches deep. If concrete is $65 per Cubic Yard, what will it cost?

KEystroKe DISPlay

\[
\begin{align*}
\text{On/C} & \quad \text{On/C} \\
4 & \quad 5 \text{ Feet} & \quad 5 \text{ Inch} \\
\times & \quad 1 & \quad 3 \text{ Feet} & \quad 6 \text{ Inch} \\
\times & \quad 5 \text{ Inch} & \quad \equiv \\
\times & \quad 6 & \quad 5 \text{ Conv} & \quad \circ
\end{align*}
\]

\[
45 \text{ FEET 5 INCH} \\
13 \text{ FEET 6 INCH} \\
9.461806 \text{ CU YD} \\
\$ 615.02 \\
(\text{total cost})
\]

Concrete Columns

You’re going to pour five Columns, each of which has a Diameter of 3 Feet 4-1/2 Inches and a height of 11 Feet 6 Inches. How many Cubic Yards of concrete will you need for all five Columns?

KEystroKe DISPlay

\[
\begin{align*}
\text{On/C} & \quad \text{On/C} \\
1. & \quad \text{Enter the Diameter of a Circle:} \\
3 & \quad \text{ Feet} & \quad 4 \text{ Inch} & \quad 1 \div 2 \text{ Circ} \\
\quad & \quad \text{DIA 3 FEET 4-1/2 INCH} \\
2. & \quad \text{Find the Surface Area of a Circle:} \\
\text{Circ} & \quad \text{AREA 8.946176 SQ FEET} \\
3. & \quad \text{Find Total Volume:} \\
\times & \quad 1 & \quad 1 \text{ Feet} & \quad 6 \text{ Inch} & \quad \equiv \\
\text{Conv} & \quad \text{Yds} & \quad \equiv \\
\times & \quad 5 & \equiv
\end{align*}
\]

\[
102.881 \text{ CU FEET} \\
3.810408 \text{ CU YD} \\
19.05204 \text{ CU YD}
\]
Complex Concrete Volume

You’re going to pour an odd-shaped patio 4-1/2 Inches deep with the dimensions shown below. First, calculate the total Area (by dividing the drawing into three individual rectangles) and then determine the total Yards of concrete required for this job.
1. Find Area of Part “A” and add to Memory:

\[
38\text{ ft}^2 - 4\text{ ft}^2 = 34 \text{ FEET 0 INCH}
\]
\[
3 \times 27\text{ ft} = 918. \text{ SQ FEET}
\]
\[
M+ \quad M+ 918. \text{ SQ FEET}
\]

2. Find Area of Part “B” and add to Memory:

\[
4 \times 8\text{ ft} = 35.41667 \text{ SQ FEET}
\]
\[
M+ \quad M+ 35.41667 \text{ SQ FEET}
\]

3. Find Area of Part “C” and add to Memory:

\[
9 \times 9\text{ ft} = 85.5 \text{ SQ FEET}
\]
\[
M+ \quad M+ 85.5 \text{ SQ FEET}
\]

4. Recall and Clear Total Area Stored in Memory:

\[
\text{RCL RCL} \quad M+ 1038.917 \text{ SQ FEET}
\]

5. Find Total Cubic Yards:

\[
\times 4\text{ in} \div 2 = 14.4294 \text{ CU YD}
\]
The top row of keys provide you with built-in solutions to Right Triangles. The solutions are available in any of the linear dimensions offered on the calculator. Thus, you can solve Right Triangles directly in Feet and Inches, Decimal Feet, Meters, etc.

Any value of a Right Triangle can be found given two of the four variables:

1) Rise, 2) Run, 3) Diagonal or 4) Pitch.
Squaring-Up a Foundation

Square-Up 15 Feet 6 Inch (Run) x 10 Feet 2 Inch (Rise):

<table>
<thead>
<tr>
<th>KEystroke</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C</td>
<td>0.</td>
</tr>
<tr>
<td>1 5 Feet 6 Inch Run</td>
<td>RUN 15 FEET 6 INCH</td>
</tr>
<tr>
<td>1 0 Feet 2 Inch Rise</td>
<td>RISE 10 FEET 2 INCH</td>
</tr>
<tr>
<td>Diag</td>
<td>DIAG 18 FEET 6-7/16 INCH</td>
</tr>
</tbody>
</table>

Pitch — Converting Roof Angle

Find the % Grade, Pitch Ratio/Slope and Pitch in Inches if the roof angle is 30.25°:

<table>
<thead>
<tr>
<th>KEystroke</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C</td>
<td>0.</td>
</tr>
<tr>
<td>3 0 2 5 Pitch</td>
<td>PTCH 30.25°</td>
</tr>
<tr>
<td>Pitch</td>
<td>%GRD 58.31828</td>
</tr>
<tr>
<td>Pitch</td>
<td>SLP 0.583183</td>
</tr>
<tr>
<td>Pitch</td>
<td>PTCH 7 INCH</td>
</tr>
</tbody>
</table>
Converting Slope

Find the Pitch in Inches, Pitch Degrees, and Percent Grade if the Pitch Ratio/Slope is 0.625:

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C On/C</td>
<td>0.</td>
</tr>
<tr>
<td>• 6 2 5 Conv Pitch</td>
<td>SLP 0.625</td>
</tr>
<tr>
<td>Pitch</td>
<td>PTCH 7-1/2 INCH</td>
</tr>
<tr>
<td>Pitch</td>
<td>PTCH 32.01°</td>
</tr>
<tr>
<td>Pitch</td>
<td>%GRD 62.5</td>
</tr>
</tbody>
</table>

Common Rafter Length

Find the Point-to-Point Length of the Common rafter on a 7/12-Pitched roof with a Span of 28 Feet:

1. Enter Pitch:
   | 7 Inch Pitch | PTCH 7 INCH |

2. Enter half the Span as the Run:
   | 2 8 Feet ÷ 2 = | 14 FEET 0 INCH |
   | Run            | RUN 14 FEET 0 INCH |

3. Find the Rise:
   | Rise           | RISE 8 FEET 2 INCH |

4. Find the Length of the Common rafter:
   | Diag           | DIAG 16 FEET 2-1/2 INCH |
A roof’s Pitch is 9/12 and half the total Span is 6 Feet. Find the lengths of the Common, Hip/Valley and Jack rafters (Jack rafters at 16 Inch On-Center spacing):

1. **Find the Common rafter length:**

   - **KEYSTROKE**: On/C On/C
   - **DISPLAY**: 0.
   - **KEYSTROKE**: 6 Feet Run
   - **DISPLAY**: RUN 6 FEET 0 INCH
   - **KEYSTROKE**: 9 Inch Pitch
   - **DISPLAY**: PTCH 9 INCH
   - **KEYSTROKE**: Diag (Common)
   - **DISPLAY**: DIAG 7 FEET 6 INCH

   *(Cont’d)*
2. Find the Hip/Valley rafter and Jack rafter lengths:

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hip/V</td>
<td>H/V 9 FEET 7-1/4 INCH</td>
</tr>
<tr>
<td>Jack</td>
<td>JKOC STORED 16 INCH*</td>
</tr>
<tr>
<td>Jack</td>
<td>JK 1 5 FEET 10 INCH</td>
</tr>
<tr>
<td>Jack</td>
<td>JK 2 4 FEET 2 INCH</td>
</tr>
<tr>
<td>Jack</td>
<td>JK 3 2 FEET 6 INCH</td>
</tr>
<tr>
<td>Jack</td>
<td>JK 4 0 FEET 10 INCH</td>
</tr>
<tr>
<td>Jack</td>
<td>JK 5 0 FEET 0 INCH</td>
</tr>
</tbody>
</table>

*Uses standard (default) 16-Inch On-Center. To enter a new On-Center (e.g., 18 Inches) press 1 8 Inch Conv 5. Press Rcl 5 to review stored value. This value will remain stored until you re-enter a new value or perform a Clear All (Conv X).
Irregular Hip/Valley

You’re working with a 7/12 Pitch and half of your overall Span is 15 Feet 7 Inches. The Irregular Pitch is 8/12. Find the Common rafter length, Irregular Hip/Valley and Jack rafter lengths.

KEYSTROKE DISPLAY

1. Find Common Rafter Length:
   On/C On/C 0.
   7 Inch Pitch
   1 5 Feet 7 Inch Run
   PTCH 7 INCH
   RUN 15 FEET 7 INCH
   Diag
   DIAG 18 FEET 0-1/2 INCH

2. Find Irregular Hip Rafter Length:
   8 Inch Conv Hip/V
   IPCH 8 INCH
   IH/V 22 FEET 7-3/8 INCH

3. Find Irregular Jack Lengths:
   Conv Jack
   IJOC STORED 16 INCH
   * Jack
   IJ 1 14 FEET 11-13/16 INCH
   IJ 2 13 FEET 7 INCH
   IJ 3 12 FEET 2-3/16 INCH
   IJ 4 10 FEET 9-3/8 INCH
   IJ 5 9 FEET 4-1/2 INCH

Etc... Continue pressing Jack until last regular Jack or “0.” is reached.

* It is not necessary to keep pressing Conv when displaying the Irregular Jack sizes.
Rake-Wall — No Base

Find each stud size in a Rake-Wall with a peak of 3 Feet 6 Inches and a length of 6 Feet. Use 16 Inches as your spacing (default):

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Enter Rise and Run:</td>
<td></td>
</tr>
<tr>
<td>On/C On/C</td>
<td>0.</td>
</tr>
<tr>
<td>3 Feet 6 Inch Rise</td>
<td>RISE 3 FEET 6 INCH</td>
</tr>
<tr>
<td>6 Feet Run</td>
<td>RUN 6 FEET 0 INCH</td>
</tr>
<tr>
<td>2. Find Stud Lengths:</td>
<td></td>
</tr>
<tr>
<td>RWOC</td>
<td>STORED 16 INCH</td>
</tr>
<tr>
<td>RW 1</td>
<td>2 FEET 8-11/16 INCH</td>
</tr>
<tr>
<td>RW 2</td>
<td>1 FEET 11-5/16 INCH</td>
</tr>
<tr>
<td>RW 3</td>
<td>1 FEET 2 INCH</td>
</tr>
<tr>
<td>RW 4</td>
<td>0 FEET 4-11/16 INCH</td>
</tr>
<tr>
<td>BASE</td>
<td>0 FEET 0 INCH</td>
</tr>
<tr>
<td>3. Find Rake-Wall Angle of Incline:</td>
<td>RW 30.26°</td>
</tr>
</tbody>
</table>

Note: To enter a base, enter the base height prior to pressing the R/Wall key (e.g., 5 Feet R/Wall).
Stairs — Given Rise and Run

You’re going to build a stairway that has a Floor-to-Floor height of 10 Feet 1 Inch, a Run of 12 Feet 5 Inches, and a desired Riser Height of 7-1/2 Inches (default). Find the stair values:

**KEYSTROKE** | **DISPLAY**
--- | ---
1. Enter Rise and Run: | 0.  
[On/C] |  
1 0 Feet 1 Inch Rise  
1 2 Feet 5 Inch Run | RISE 10 FEET 1 INCH  
RUN 12 FEET 5 INCH  
(Cont’d)
2. Recall stored 7-1/2 Inch desired Riser Height and find stair values:

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rcl</strong></td>
<td><strong>Stair</strong></td>
</tr>
<tr>
<td><strong>Stair</strong></td>
<td><strong>Stair</strong></td>
</tr>
<tr>
<td><strong>Stair</strong></td>
<td><strong>Stair</strong></td>
</tr>
<tr>
<td><strong>Stair</strong></td>
<td><strong>Stair</strong></td>
</tr>
<tr>
<td><strong>Stair</strong></td>
<td><strong>Stair</strong></td>
</tr>
<tr>
<td><strong>Stair</strong></td>
<td><strong>Stair</strong></td>
</tr>
<tr>
<td><strong>Stair</strong></td>
<td><strong>Stair</strong></td>
</tr>
<tr>
<td><strong>Stair</strong></td>
<td><strong>Stair</strong></td>
</tr>
</tbody>
</table>

*A ▼ in the display means the calculated Riser Height or Tread Width is greater than the stored desired Riser Height or Tread Width.
Stairs — Given Only the Floor-to-Floor Rise; Entering Other Than 7-1/2 Inch Desired Riser Height

Find stair values if the Floor-to-Floor Rise is 12 Feet 6 Inches, and the desired Riser Height is 8 Inches:

<table>
<thead>
<tr>
<th>KEYS</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Enter desired Riser Height and Floor-to-Floor Rise:</td>
<td>![Keystroke Display for Floor-to-Floor Rise and Riser Height]</td>
</tr>
<tr>
<td>R-HT STORED 8 INCH</td>
<td>RISE 12 FEET 6 INCH</td>
</tr>
</tbody>
</table>

2. Calculate stair values:

- **R-HT**: 7-7/8 INCH
- **RSRS**: 19.
- **R+/–**: 0-3/8 INCH
- **T-WD STORED**: 10 INCH
- **TRDS**: 18.
- **T+/–**: 0 INCH
- **STRG**: 19 FEET 1-1/8 INCH
- **INCL**: 38.22°
- **RUN**: 15 FEET 0 INCH
- **RISE STORED**: 12 FEET 6 INCH
- **R-HT STORED**: 8 INCH
- **T-WD STORED**: 10 INCH

*Note: Run is calculated based on Tread values, as it was not entered. The Total Run of a stair-way is equal to the width of each Tread multiplied by the number of Treads.
Setting Fractional Resolution

Fractional resolution is permanently set via the Preference Settings (see Preference Settings section for instructions). To select other formats temporarily (e.g., 1/64ths, 1/32nds, etc.), see the example below:

Add 44/64th to 1/64th of an inch and then convert the answer to other fractional resolutions:

<table>
<thead>
<tr>
<th>KEYSTROKE</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/C</td>
<td>0.</td>
</tr>
<tr>
<td>4 4 / 6 4</td>
<td>0-44/64 INCH</td>
</tr>
<tr>
<td>+ 1 / 6 4 =</td>
<td>0-45/64 INCH</td>
</tr>
<tr>
<td>Conv 1 (1/16)</td>
<td>0-11/16 INCH</td>
</tr>
<tr>
<td>Conv 2 (1/2)</td>
<td>0-1/2 INCH</td>
</tr>
<tr>
<td>Conv 3 (1/32)</td>
<td>0-23/32 INCH</td>
</tr>
<tr>
<td>Conv 4 (1/4)</td>
<td>0-3/4 INCH</td>
</tr>
<tr>
<td>Conv 6 (1/64)</td>
<td>0-45/64 INCH</td>
</tr>
<tr>
<td>Conv 8 (1/8)</td>
<td>0-3/4 INCH</td>
</tr>
<tr>
<td>On/C On/C</td>
<td>0.</td>
</tr>
</tbody>
</table>

Note: Changing the Fractional Resolution on a displayed value does not alter your Permanent Fractional Resolution Setting. Pressing On/C will return your calculator to the permanently set fractional resolution.
Default Settings

After a Clear All (Conv X), your calculator will return to the following settings:

<table>
<thead>
<tr>
<th>STORED VALUES</th>
<th>DEFAULT VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stair Riser Height</td>
<td>7-1/2 Inch</td>
</tr>
<tr>
<td>Stair Tread Width</td>
<td>10 Inch</td>
</tr>
<tr>
<td>On-Center Spacing</td>
<td>16 Inch</td>
</tr>
<tr>
<td>Weight per Volume</td>
<td>1.5 Tons/Cu Yd</td>
</tr>
</tbody>
</table>

If you replace your battery or perform a Full Reset* (press Off, hold down X, and press On/C), your calculator will return to the following settings (in addition to those listed above):

<table>
<thead>
<tr>
<th>PREFERENCE SETTINGS</th>
<th>DEFAULT VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractional Resolution</td>
<td>1/16</td>
</tr>
<tr>
<td>Area Display</td>
<td>Standard</td>
</tr>
<tr>
<td>Volume Display</td>
<td>Standard</td>
</tr>
<tr>
<td>Meter Linear Display</td>
<td>0.000</td>
</tr>
<tr>
<td>Decimal Degree Display</td>
<td>0.00°</td>
</tr>
<tr>
<td>Fractional Mode</td>
<td>Standard</td>
</tr>
</tbody>
</table>

*Depressing the Reset button located above the Pitch key will also perform a Full Reset.

Auto Shut-Off

Your calculator will shut itself off after about 8-12 minutes of non-use.
Accuracy/Errors

Accuracy/Display Capacity —
You may enter or calculate values up to 19,999,999.99. Each calculation is carried out internally to twelve digits.

Errors — When an incorrect entry is made, or the answer is beyond the range of the calculator, it will display the word “ERROR.” To clear an error condition you must hit the **On/C** button once. At this point you must determine what caused the error and re-key the problem.

Error Codes:

<table>
<thead>
<tr>
<th>DISPLAY</th>
<th>ERROR TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0FL0</td>
<td>Overflow (too large to display)</td>
</tr>
<tr>
<td>DIV</td>
<td>Divide by 0</td>
</tr>
<tr>
<td>DIM</td>
<td>Dimension error</td>
</tr>
<tr>
<td>ENT</td>
<td>Entry error</td>
</tr>
<tr>
<td>None</td>
<td>Attempt to calculate stairs without entering Rise and Run</td>
</tr>
</tbody>
</table>

Auto-Range — If an “overflow” is created because of an input and calculation with small units that are out of the standard range of the display, the answer will be automatically expressed in the next larger units (instead of showing “ERROR”) — e.g., 20,000,000 mm is shown as **20,000 M**. Also applies to Inches, Feet and Yards.
Battery

This model uses one (1) CR2016 battery (included). Should your calculator display become very dim or erratic, replace the battery.

*Note: Please use caution when disposing of your old battery, as it contains hazardous chemicals.*

Replacement battery is available at most discount or electronics stores. You may also call Calculated Industries at 1-775-885-4900.

Replacing the Battery

While the calculator is off, turn the calculator over and use a #1 Phillips screwdriver to remove the battery holder screw located near the center at the top. With the screw removed, pull battery holder out, remove old battery, and slide new battery into holder. The negative side of the battery should be facing you as you insert the battery holder into the calculator. Replace screw using a #1 Phillips screwdriver.

Reset

If your calculator should ever “lock up,” press Reset — a small hole located above the Pitch key — to perform a total reset.
**Area Formulas**

- **Square**
  - Area = $a^2$

- **Triangle**
  - Area = $\frac{1}{2} ab$

- **Rectangle**
  - Area = $lw$

- **Octagon**
  - Area = $(d/2)^2 \times 2.828$

- **Circle**
  - Circumference = $2\pi r$
  - Area = $\pi r^2$

- **Ellipse**
  - Area = $\pi ab$
Volume Formulas

**Cube**
Surface Area = $6a^2$
Volume = $a^3$

**Rectangle**
Surface Area = $2hw + 2hl + 2lw$
Volume = $l \times w \times h$

**Cone**
Surface Area = $\pi r \sqrt{r^2 + h^2}$
(+ $\pi r^2$ if you add the base)
Volume = $\frac{\pi r^2 h}{3}$

**Sphere**
Surface Area = $4\pi r^2$
Volume = $\frac{4}{3}\pi r^3$

**Cylinder**
Surface Area = $2\pi rh + 2\pi r^2$
Volume = $\pi r^2 h$
REPAIR AND RETURN

Warranty, Repair and Return Information

Return Guidelines

1. Please read the **Warranty** in this User's Guide to determine if your Calculated Industries product remains under warranty **before** calling or returning any device for evaluation or repairs.

2. If your product won't turn on, check the battery as outlined in the User's Guide.

3. If you need more assistance, please go to the website listed below.

4. If you believe you need to return your product, please call a Calculated Industries representative between the hours of 8:00am to 4:00pm Pacific Time for additional information and a Return Merchandise Authorization (RMA).

   **Call Toll Free: 1-800-854-8075**
   
   **Outside USA: 1-775-885-4900**
   
   www.calculated.com/warranty
WARRANTY

Warranty Repair Service – U.S.A.

Calculated Industries ("CI") warrants this product against defects in materials and workmanship for a period of one (1) year from the date of original consumer purchase in the U.S. If a defect exists during the warranty period, CI at its option will either repair (using new or remanufactured parts) or replace (with a new or remanufactured calculator) the product at no charge.

THE WARRANTY WILL NOT APPLY TO THE PRODUCT IF IT HAS BEEN DAMAGED BY MISUSE, ALTERATION, ACCIDENT, IMPROPER HANDLING OR OPERATION, OR IF UNAUTHORIZED REPAIRS ARE ATTEMPTED OR MADE. SOME EXAMPLES OF DAMAGES NOT COVERED BY WARRANTY INCLUDE, BUT ARE NOT LIMITED TO, BATTERY LEAKAGE, BENDING, A "BLACK INK SPOT" OR VISIBLE CRACKING OF THE LCD, WHICH ARE PRESUMED TO BE DAMAGES RESULTING FROM MISUSE OR ABUSE.

To obtain warranty service in the U.S., please go to the website.

A repaired or replacement product assumes the remaining warranty of the original product or 90 days, whichever is longer.

Non-Warranty Repair Service – U.S.A.

Non-warranty repair covers service beyond the warranty period, or service requested due to damage resulting from misuse or abuse.

Contact Calculated Industries at the number listed on the back cover to obtain current product repair information and charges. Repairs are guaranteed for 90 days.

Repair Service – Outside the U.S.A.

To obtain warranty or non-warranty repair service for goods purchased outside the U.S., contact the dealer through which you initially purchased the product. If you cannot reasonably have the product repaired in your area, you may contact CI to obtain current product repair information and charges, including freight and duties.
Disclaimer

CI MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT’S QUALITY, PERFORMANCE, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS PRODUCT, INCLUDING BUT NOT LIMITED TO, KEYSTROKE PROCEDURES, MATHEMATICAL ACCURACY AND PREPROGRAMMED MATERIAL, IS SOLD “AS IS,” AND YOU THE PURCHASER ASSUME THE ENTIRE RISK AS TO ITS QUALITY AND PERFORMANCE.

IN NO EVENT WILL CI BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE PRODUCT OR ITS DOCUMENTATION.

The warranty, disclaimer, and remedies set forth above are exclusive and replace all others, oral or written, expressed or implied. No CI dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights, and you may also have other rights, which vary from state to state.
FCC CLASS B

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC rules.

LOOKING FOR NEW IDEAS

Calculated Industries, a leading manufacturer of special-function calculators and digital measuring instruments, is always interested in new product ideas in these areas.

If you have a new product idea, please visit our “Bright Idea” page at www.calculated.com/brightidea.asp. For suggestions about improving this product or other products, please visit us at www.calculated.com under “Contact Us.” Thank You.
This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC rules.

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