

# **MEASURE MASTER™ PRO**

FEET-INCH-FRACTION and METRIC CALCULATOR

**Model 4020**

**Pocket Reference Guide**



 **CALCULATED  
INDUSTRIES®**

# MEASURE MASTER® PRO

The *Measure Master Pro* calculator helps you save time, cut costly errors and measure and estimate *like a pro!*

## **Quickly Solve:**

- *Feet-Inches-Fractions, Yards, and Metric Dimensional Problems*
- *Feet-Inches-Fractions, Yards, and Metric Conversions*
- *Problems Involving All Fractions – 1/2-1/64ths!*
- *Instant Areas, Volumes and Weights*
- *Circle/Arc Calculations*
- *Material Quantity (e.g., Concrete, Flooring)*
- *Squaring-up, and more*

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# KEY DEFINITIONS

## Dimension Keys


















---

<b>Yds</b>	Yards
<b>Feet</b>	Feet
<b>Inch</b>	Inch
<b>/</b>	Fraction Bar (used to enter feet-inch-fractions)
<b>m</b>	Meters
<b>cm</b>	Centimeters
<b>mm</b>	Millimeters
<b>Bd Ft</b>	<b>Board Feet</b> – Enters or converts cubic values to board feet.
<b>Length</b>	Enters length for calculation of area or volume.
<b>Width</b>	Enters width and calculates: area, square-up and perimeter.
<b>Height</b>	Enters height and calculates: volume, area, square-up, perimeter wall area and total room area.

- Conv** **1** Enters or converts to kilograms.
- Conv** **3** Enters or converts to Metric tons.
- Conv** **4** Enters or converts to pounds.
- Conv** **6** Enters or converts to tons.
- Circ** **Circle** – Calculates circle area and circumference based on entered diameter.
- Arc** Calculates arc length or degree based on entered diameter and arc degree or length (i.e., if arc degree is entered, it will compute arc length, and vice versa).
- Stor** **5** Stores on-center spacing value (e.g., 16") for rafters and rake-walls. Also used for studs.
- Conv** **Arc** **Radius** – Enters or calculates the circle radius.

## Miscellaneous Functions

---

	Backspace key
<b>Conv</b> 	( $\sqrt{x}$ ) Square Root
<b>Conv</b> 	(1/x) Inverse
<b>Conv</b> 	Clear All
<b>Conv</b> 	(+/-) Toggle
<b>Conv</b> 	Pi ( $\pi$ ) 3.141593
<b>Conv</b> 	$x^2$
<b>Conv</b> <b>Stor</b> 	Preference Settings
<b>Stor</b> 	Stores Weight per Volume
<b>Conv</b> 	Total Cost (based on entry of per unit cost)
<b>Conv</b> 	Converts between D:M:S and decimal degrees.
<b>M+</b>	(M+) Memory +
<b>Conv</b> <b>M+</b>	(M-) Memory -
<b>Rcl</b> <b>Rcl</b>	Recall and Clear M+
<b>Stor</b> 	(M1) Register
<b>Stor</b> 	(M2) Register
<b>Stor</b> 	(M3) Register
<b>Rcl</b> <b>M+</b> ,  ,  or 	Recall M+, M1, M2 or M3

**Rcl** **=**

***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.

## 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.*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>6</b> <b>Feet</b> <b>+</b>	6 FEET 0 INCH
<b>5</b> <b>Feet</b> <b>+</b>	11 FEET 0 INCH
<b>4</b> <b>Feet</b> <b>=</b>	15 FEET 0 INCH
<b>Rcl</b> <b>=</b>	TTL= 15 FEET 0 INCH
<b>+</b>	01 6 FEET 0 INCH
<b>+</b>	02 + 5 FEET 0 INCH
<b>+</b>	03 + 4 FEET 0 INCH
<b>-</b>	02 + 5 FEET 0 INCH
<b>=</b>	TTL= 15 FEET 0 INCH
<b>+</b> <b>1</b> <b>0</b> <b>Feet</b> <b>=</b>	25 FEET 0 INCH

## Preference Settings

---

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

### PRESS **Conv** AND: SETTING--FUNCTION

---

1st press

of **Stor**

Fractional Resolution:

- 1/16
- +** --1/32
- +** --1/64
- +** --1/2
- +** --1/4
- +** --1/8
- +** --1/16 (repeats options)

2nd press

of **Stor**

Area Displays:

- Standard**
- +** --0. SQ FEET
- +** --0. SQ YD
- +** --0. SQ M
- +** --**Standard** (repeats options)

(Cont'd)

(Cont'd)

**PRESS **Conv** AND: SETTING--FUNCTION**

---

3rd press

of **Stor**

**+**

**+**

**+**

**+**

*Volume Displays:*

--**Standard**

--**0. CU YD**

--**0. CU FEET**

--**0. CU M**

--**Standard** (*repeats options*)

4th press

of **Stor**

**+**

**+**

*Exponential Display:*

--**Off**

--**On**

--**Off** (*repeats options*)

5th press

of **Stor**

**+**

**+**

*Meter Linear Display:*

--**0.000 M**

--**FLOAt M** (*floating point*)

--**0.000 M** (*repeats options*)

6th press

of **Stor**

**+**

**+**

*Decimal Degree Displays:*

--**0.00°**

--**FLOAt** (*floating point*)

--**0.00°** (*repeats options*)

## EXAMPLES

### 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.

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>6</b> <b>Feet</b> <b>2</b> <b>Inch</b> <b>1</b> <b>/</b> <b>2</b> <b>+</b>	6 FEET 2-1/2 INCH
<b>1</b> <b>1</b> <b>Feet</b> <b>5</b> <b>Inch</b> <b>1</b> <b>/</b> <b>4</b> <b>+</b>	17 FEET 7-3/4 INCH
<b>1</b> <b>8</b> <b>.</b> <b>2</b> <b>5</b> <b>Inch</b> <b>=</b>	19 FEET 2 INCH
<b>-</b> <b>2</b> <b>Inch</b> <b>1</b> <b>/</b> <b>8</b> <b>=</b>	18 FEET 11-7/8 INCH

## 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 3'6" pieces can you cut from  
one 25-ft. 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
<b>On/C</b> <b>On/C</b>	0.
<b>2</b> <b>.</b> <b>7</b> <b>8</b> <b>Yds</b> <b>Yds</b> <b>Yds</b> <b>+</b> <b>1</b> <b>0</b> <b>%</b>	3.058 CU YD

What is 25% of \$1,575?

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>5</b> <b>7</b> <b>5</b> <b>X</b> <b>2</b> <b>5</b> <b>%</b>	393.75

## Square Area

---

*Find the area of a square room with sides measuring 15 feet 8-1/2 inches.*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>5</b> <b>Feet</b> <b>8</b> <b>Inch</b> <b>1</b> <b>/</b> <b>2</b>	15 FEET 8-1/2 INCH
<b>Conv</b> <b>%</b> ( $x^2$ )	246.7517 SQ FEET

## Square Root

---

*What is the square root of 200?*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>2</b> <b>0</b> <b>0</b> <b>Conv</b> <b>←</b>	14.14214

## 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

KEYSTROKE

DISPLAY

<b>On/C</b> <b>On/C</b>	0.
<b>2</b> <b>0</b> <b>Feet</b> <b>6</b> <b>Inch</b> <b>1</b> <b>/</b> <b>2</b> <b>Length</b>	
	LNTH 20 FEET 6-1/2 INCH
<b>1</b> <b>2</b> <b>Feet</b> <b>8</b> <b>Inch</b> <b>1</b> <b>/</b> <b>2</b> <b>Width</b> <b>Width</b> *	
	AREA 261.0503 SQ FEET
<b>1</b> <b>0</b> <b>Inch</b> <b>Height</b> <b>Height</b> *	
	VOL 8.057109 CU YD

\*Press **Width** and **Height** keys a second time (after entry of Width and Height) to calculate area and volume.

## Multi-Function **Height** Key

---

*Find the volume, area, square-up, perimeter, wall area, and total room area of an 18' x 25' room measuring 12' tall.*

KEYSTROKE

DISPLAY

---

<b>On/C</b>	<b>On/C</b>									<b>0.</b>
<b>1</b>	<b>8</b>	<b>Feet</b>	<b>Length</b>	<b>LNTH</b>	<b>18</b>	<b>FEET</b>	<b>0</b>	<b>INCH</b>		
<b>2</b>	<b>5</b>	<b>Feet</b>	<b>Width</b>	<b>WDTH</b>	<b>25</b>	<b>FEET</b>	<b>0</b>	<b>INCH</b>		
<b>1</b>	<b>2</b>	<b>Feet</b>	<b>Height</b>	<b>HGHT</b>	<b>12</b>	<b>FEET</b>	<b>0</b>	<b>INCH</b>		
<b>Height</b>				<b>VOL</b>	<b>5400.</b>	<b>CU</b>	<b>FEET</b>			
<b>Height</b>				<b>AREA</b>	<b>450.</b>	<b>SQ</b>	<b>FEET</b>			
<b>Height</b>				<b>SQUP</b>	<b>30</b>	<b>FEET</b>	<b>9-11/16</b>	<b>INCH</b>		
<b>Height</b>				<b>PER</b>	<b>86</b>	<b>FEET</b>	<b>0</b>	<b>INCH</b>		
<b>Height</b>				<b>WALL*</b>	<b>1032.</b>	<b>SQ</b>	<b>FEET</b>			
<b>Height</b>				<b>ROOM**</b>	<b>1482.</b>	<b>SQ</b>	<b>FEET</b>			

*\*Wall Area adds the lengths, multiplies them by 2 and then multiplies by height.*

*\*\*Room Area=Wall Area+Ceiling Area*

## 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:*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>5</b> <b>5</b> <b>Feet</b> <b>Feet</b> <b>+</b> <b>1</b> <b>0</b> <b>%</b>	60.5 SQ FEET
<b>1</b> <b>5</b> <b>0</b> <b>Feet</b> <b>Feet</b> <b>Feet</b> <b>+</b> <b>2</b> <b>0</b> <b>%</b>	180. CU FEET

## Linear Conversions

---

*Convert 10 feet 6 inches to other dimensions, including Metric:*

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

*Convert 14 feet 7-1/2 inches to decimal feet:*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>4</b> <b>Feet</b> <b>7</b> <b>Inch</b> <b>1</b> <b>/</b> <b>2</b>	14 FEET 7-1/2 INCH
<b>Conv</b> <b>Feet</b>	14.625 FEET

*Convert 22.75 feet to feet-inches:*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>2</b> <b>2</b> <b>•</b> <b>7</b> <b>5</b> <b>Feet</b>	22.75 FEET
<b>Conv</b> <b>Feet</b>	22 FEET 9 INCH

## Square and Cubic Conversions

*Convert 14 square feet to square yards:*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>4</b> <b>Feet</b> <b>Feet</b>	14 SQ FEET
<b>Conv</b> <b>Yds</b>	1.555556 SQ YD

*Convert 25 square yards to square feet:*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>2</b> <b>5</b> <b>Yds</b> <b>Yds</b>	25 SQ YD
<b>Conv</b> <b>Feet</b>	225. SQ FEET

*Convert 12 cubic feet to cubic yards:*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>2</b> <b>Feet</b> <b>Feet</b> <b>Feet</b>	12 CU FEET
<b>Conv</b> <b>Yds</b>	0.444444 CU YD

## Weight Conversions

---

*Convert 150 pounds to other weights  
(tons, Metric tons, kg):*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>5</b> <b>0</b> <b>Conv</b> <b>4</b>	150 LB
<b>Conv</b> <b>6</b>	0.075 Ton
<b>Conv</b> <b>3</b>	0.068039 MET Ton
<b>Conv</b> <b>1</b>	68.03886 kg

## Weight per Volume

*Convert 20 cubic yards of concrete to pounds, tons, Metric tons and kilograms, if concrete weighs 1.5 tons per cubic yard (default value):*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>2</b> <b>0</b> <b>Yds</b> <b>Yds</b> <b>Yds</b>	20 CU YD
<b>Conv</b> <b>4</b>	60000. LB
<b>Conv</b> <b>6</b>	30. Ton
<b>Conv</b> <b>3</b>	27.21554 MET Ton
<b>Conv</b> <b>1</b>	27215.54 kG

*Now convert again, if concrete weighs 2 tons per cubic yard (store new Wt/Vol. value):*

KEYSTROKE	DISPLAY
<b>2</b> <b>Stor</b> <b>0</b>	2. Ton Per CU YD
<b>2</b> <b>0</b> <b>Yds</b> <b>Yds</b> <b>Yds</b>	20 CU YD
<b>Conv</b> <b>4</b>	80000. LB
<b>Conv</b> <b>6</b>	40. Ton
<b>Conv</b> <b>3</b>	36.28739 MET Ton
<b>Conv</b> <b>1</b>	36287.39 kG
<b>Conv</b> <b>X</b> *	ALL CLEARED

*\*Clear stored Wt/Vol*

## Using the Memory

---

Add 100 and 200 to the Memory, then subtract 50 and recall the total while clearing the memory:

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>0</b> <b>0</b> <b>M+</b>	M+ 100. <b>M</b>
<b>2</b> <b>0</b> <b>0</b> <b>M+</b>	M+ 200. <b>M</b>
<b>5</b> <b>0</b> <b>Conv</b> <b>M+</b>	M- 50. <b>M</b>
<b>Rcl</b> <b>Rcl</b>	M+ 250.

## Using the Memory — Finding Quantity of Carpet Required

---

--Room 1: 12' 4" x 15'

--Room 2: 14' 8" x 16'

--Add 10% waste allowance

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>2</b> <b>Feet</b> <b>4</b> <b>Inch</b>	12 FEET 4 INCH
<b>X</b> <b>1</b> <b>5</b> <b>Feet</b> <b>=</b>	185. SQ FEET
<b>M+</b>	M+ 185. SQ FEET <b>M</b>
<b>1</b> <b>4</b> <b>Feet</b> <b>8</b> <b>Inch</b>	14 FEET 8 INCH <b>M</b>
<b>X</b> <b>1</b> <b>6</b> <b>Feet</b> <b>=</b> <b>M+</b>	M+ 234.6667 SQ FEET <b>M</b>
<b>Rcl</b> <b>Rcl</b>	M+ 419.6667 SQ FEET
<b>Conv</b> <b>Yds</b>	46.62963 SQ YD
<b>+</b> <b>1</b> <b>0</b> <b>%</b>	51.29259 SQ YD

## Board Feet and Cost

---

Find the total board feet for the following boards: 2 x 4 x 16, 2 x 10 x 18 and 2 x 12 x 20. What is the total cost at \$275 per Mbm\*?

\*Per thousand board foot measure.

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>2</b> <b>X</b> <b>4</b> <b>X</b> <b>1</b> <b>6</b> <b>Bd Ft</b> <b>M+</b>	BDFT 10.66667 <b>M</b>
<b>2</b> <b>X</b> <b>1</b> <b>0</b> <b>X</b> <b>1</b> <b>8</b> <b>Bd Ft</b> <b>M+</b>	BDFT 30. <b>M</b>
<b>2</b> <b>X</b> <b>1</b> <b>2</b> <b>X</b> <b>2</b> <b>0</b> <b>Bd Ft</b> <b>M+</b>	BDFT 40. <b>M</b>
<b>Rcl</b> <b>Rcl</b>	BDFT 80.66667
<b>X</b> <b>2</b> <b>7</b> <b>5</b> <b>Conv</b> <b>0</b>	\$ 22.18

## Circle Area and Circumference

---

*Find the area and circumference of a circle with a diameter of 25 inches:*

KEYSTROKE

DISPLAY

---

**On/C** **On/C**

0.

**2** **5** **Inch** **Circ**

DIA 25 INCH

**Circ**

AREA 490.8739 SQ INCH

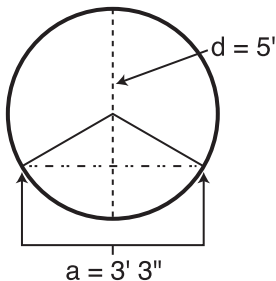
**Circ**

CIRC 78-9/16 INCH

## 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.



KEYSTROKE

DISPLAY

---

1. Enter circle diameter and arc length:

<b>On/C</b>	<b>On/C</b>				<b>0.</b>
<b>5</b>	<b>Feet</b>	<b>Circ</b>		<b>DIA</b>	<b>5 FEET 0 INCH</b>
<b>3</b>	<b>Feet</b>	<b>3</b>	<b>Inch</b>	<b>ARC</b>	<b>3 FEET 3 INCH</b>

2. Find degree of arc:

<b>Arc</b>				<b>ARC</b>	<b>74.48°</b>
------------	--	--	--	------------	---------------

## 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
<b>On/C</b> <b>On/C</b>	0.
<b>4</b> <b>5</b> <b>Feet</b> <b>5</b> <b>Inch</b>	45 FEET 5 INCH
<b>X</b> <b>1</b> <b>3</b> <b>Feet</b> <b>6</b> <b>Inch</b>	13 FEET 6 INCH
<b>X</b> <b>5</b> <b>Inch</b> <b>=</b>	9.461806 CU YD
<b>X</b> <b>6</b> <b>5</b> <b>Conv</b> <b>0</b>	\$ 615.02 (total cost)

## Squaring-up a Foundation

---

Square-up 15' 6" (run) x 10' 2" (rise):

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>5</b> <b>Feet</b> <b>6</b> <b>Inch</b> <b>Length</b>	LNTH 15 FEET 6 INCH
<b>1</b> <b>0</b> <b>Feet</b> <b>2</b> <b>Inch</b> <b>Width</b>	WDTH 10 FEET 2 INCH
<b>Width</b> <b>Width</b>	SQUP 18 FEET 6-7/16 INCH

# APPENDIX A

## Setting Fractional Resolution

Your calculator is set to display fractional answers in 16ths. To select other formats (e.g., 1/64ths, 1/32nds, etc.) follow the keystrokes below:

KEYSTROKE	DISPLAY
1. Clear calculator: <b>On/C</b> <b>On/C</b>	0.
2. Set calculator to 1/2: <b>Conv</b> <b>2</b>	FRAC 0-1/2 INCH*
3. Set calculator to 1/32: <b>Conv</b> <b>3</b>	FRAC 0-1/32 INCH
4. Set calculator to 1/4: <b>Conv</b> <b>4</b>	FRAC 0-1/4 INCH
5. Set calculator to 1/64: <b>Conv</b> <b>6</b>	FRAC 0-1/ 64 INCH
6. Set calculator to 1/8: <b>Conv</b> <b>8</b>	FRAC 0-1/8 INCH
7. Return calculator to 1/16: <b>Conv</b> <b>1</b>	FRAC 0-1/16 INCH

\*Display will flash the new setting for one second, then it will clear. Press **Rcl** **7** to display setting.

## **Auto-Shut Off**

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

## **Accuracy/Errors**

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*Accuracy/Display Capacity* — Your calculator has a twelve-digit display made up of eight digits (normal display) and four fractional digits. 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:**

<b>DISPLAY</b>	<b>ERROR TYPE</b>
<b>OFLO</b>	Overflow (too large)
<b>MATH Error</b>	Divide by 0
<b>DIM Error</b>	Dimension error
<b>ENT Error</b>	Entry error

*Auto-Range* — If an “overflow” is created because of an input and calculation with small units that are out of the standard seven-digit range of the display, the answer will be automatically expressed in the next larger units (instead of showing “ERROR”) — e.g., 10,000,000 mm is shown as 10,000 m. Also applies to inches, feet and yards.

## **Batteries**

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This model uses **two (2) LR44** batteries (included).

Should your calculator display become very dim or erratic, replace the batteries.

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

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

## **Replacing the Batteries**

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To replace the batteries, slide open the battery door (at top backside of unit) and replace with new batteries. Make sure the batteries are facing positive side up.

## **Reset Key**

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If your calculator should ever “lock up,” press Reset — a small hole located to the left of the **Off** key — to perform a total reset.

# APPENDIX B

## Area Formulas

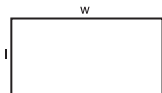
---



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



**Triangle**  
Area =  $1/2 ab$



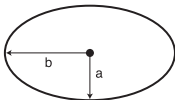
**Rectangle**  
Area =  $lw$



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



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



**Ellipse**  
Area =  $\pi ab$

# Volume Formulas

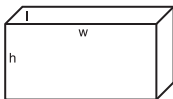
---



## Cube

$$\text{Surface Area} = 6a^2$$

$$\text{Volume} = a^3$$



## Rectangle

$$\text{Surface Area} =$$

$$2hw + 2hl + 2lw$$

$$\text{Volume} = l \times w \times h$$



## Cone

$$\text{Surface Area} = \pi r \sqrt{r^2 + h^2}$$

$$(+ \pi r^2 \text{ if you add the base})$$

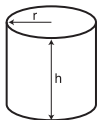
$$\text{Volume} = \frac{\pi r^2 h}{3}$$



## Sphere

$$\text{Surface Area} = 4\pi r^2$$

$$\text{Volume} = 4/3\pi r^3$$



## Cylinder

$$\text{Surface Area} = 2\pi r h + 2\pi r^2$$

$$\text{Volume} = \pi r^2 h$$

# 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 calculator, measuring device or electronic tool remains under warranty ***before*** calling or returning any device for evaluation or repairs.
2. If your calculator won't turn on, try pressing the "Reset Button" first. If it still won't turn on, check the batteries as outlined in the User's Guide.
3. **If there is a black spot on the LCD screen, THIS IS NOT A WARRANTY DEFECT. The unit can be repaired. Call for a repair quote before returning your unit.**
4. If you need more assistance, please go to our website at [www.calculated.com](http://www.calculated.com) and click on Support, then Repair Services FAQs.
5. If you believe you need to return your calculator, please speak to a Calculated Industries representative for additional information!

**Call Toll Free: 1-800-854-8075**

# WARRANTY

## **Warranty Repair Service – U.S.A.**

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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, 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., ship the product postage paid to Calculated Industries (address listed on the last page). Please provide an explanation of the service requirement, your name, address, day phone number and dated proof of purchase (typically a sales receipt). If the product is over 90 days old, include payment of \$6.95 for return shipping and handling within the contiguous 48 states. (Outside the contiguous 48 states, please call CI for return shipping costs.)

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 above 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**

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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**

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

If you have an idea, or a suggestion for improving this product or User's Guide, please submit your comments online at [www.calculated.com](http://www.calculated.com) under "Contact Us," "Product Idea." Thank you.

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