

# **MEASURE MASTER™ 5**

FEET-INCH-FRACTION and METRIC CALCULATOR

**Model 4018 v3.1**

**Pocket Reference Guide**



 **CALCULATED  
INDUSTRIES®**

## MEASURE MASTER™ 5 v3.1

The *Measure Master 5* calculator helps you measure and estimate *like a pro* while saving you time by cutting costly errors.

### **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

## Basic Function Keys

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Arithmetic operation keys.



Keys used for entering numbers.



**Percent Key** — Four-function (+, -, x, ÷) percent key.



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



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



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



**Store Key** — Used for storing values.



**Recall Key** — Used for recalling stored values.

## Unit Keys

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**Yds**

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

**Feet**

**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**

**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.

**m**

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

**cm**

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

**mm**

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

**Conv** (2)

**Acres** — Enters or converts (a square value) to *Acres*.

**Bd Ft**

**Board Feet Key** — Enters or converts Cubic values to Board Feet. One Board Foot is equal to 144 Cubic Inches.

**Conv** (1)

**Kilograms** — Enters or converts to Kilograms.

**Conv** (3)

**Metric Tons** — Enters or converts to Metric Tons.

**Conv** (4)

**Pounds** — Enters or converts to Pounds.

**Conv** (6)

**Tons** — Enters or converts to Tons.

## Circle/Arc Keys

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**Circ**

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

**Arc**

**Arc Key** — Calculates Arc Length or Degree, Chord Length, Segment Area, Pie Slice Area and Segment Rise based on entered Diameter/Radius and Arc Degree or Length (i.e., if Arc Degree is entered, it will calculate Arc Length, and vice versa).

**Conv** **Arc**

**Radius** — Enters or calculates the circle radius.

## Miscellaneous Functions

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**←**

**Backspace key**

**Conv** **←**

**( $\sqrt{x}$ ) Square Root**

**Conv** **÷**

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



**Conv** **X**

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

**Conv** **-**

(+/-) Toggle

**Conv** **+**

Pi ( $\pi$ ) 3.141593

**Conv** **%**

$x^2$  — Squares the value in the display.

**Conv** **Stor**

Preference Settings

**Stor** **0**

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

*Note:* After entering a value and pressing **Stor** **0**, continue pressing the **0** digit key until you've reached the desired *Weight per Volume* format. To recall your setting, press **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* (**Conv** **X**).

<b>Conv</b> <b>0</b>	Total Cost (based on entry of per unit cost)
<b>Conv</b> <b>◐</b>	Converts between D:M:S and Decimal Degrees.
<b>M+</b>	(M+) <b>Memory +</b>
<b>Conv</b> <b>M+</b>	(M-) <b>Memory -</b>
<b>Rcl</b> <b>Rcl</b>	<b>Recall and Clear M+</b>
<b>Stor</b> <b>1</b>	(M1) <b>Storage Register</b>
<b>Stor</b> <b>2</b>	(M2) <b>Storage Register</b>
<b>Stor</b> <b>3</b>	(M3) <b>Storage Register</b>
<b>Rcl</b> <b>M+</b> , <b>1</b> , <b>2</b> or <b>3</b>	Recall M+, M1, M2 or M3
<b>Rcl</b> <b>=</b>	<b>Paperless Tape</b> – Useful for checking figures, as it scrolls through your past 20 entries or calculations. Press <b>Rcl</b> <b>=</b> to access Paperless Tape mode. Press <b>+</b> or <b>-</b> to scroll forward or backward. Press <b>=</b> 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 the **On/C** key to exit Preferences.

### PRESS

**Conv** AND:

SETTING--FUNCTION

---

First press of **Stor**:

	Fractional Resolution:
	--1/16
<b>+</b>	--1/32
<b>+</b>	--1/64
<b>+</b>	--1/2
<b>+</b>	--1/4
<b>+</b>	--1/8
<b>+</b>	--1/16 (repeats options)

Second press of **Stor**:

	Area Displays:
	--Std.
<b>+</b>	--0. SQ FEET
<b>+</b>	--0. SQ YD
<b>+</b>	--0. SQ M
<b>+</b>	--Std. (repeats options)

Third press of **Stor**:

	Volume Displays:
	--Std.
<b>+</b>	--0. CU YD
<b>+</b>	--0. CU FEET
<b>+</b>	--0. CU M
<b>+</b>	--Std. (repeats options)

Fourth press of <b>Stor</b> :	<i>Exponential Mode:</i>
<b>+</b>	--OFF
<b>+</b>	--On
	--OFF ( <i>repeats options</i> )
Fifth press of <b>Stor</b> :	<i>Meter Linear Displays:</i>
<b>+</b>	--0.000 M
<b>+</b>	--FLOAt M ( <i>floating point</i> )
	--0.000 M ( <i>repeats options</i> )
Sixth press of <b>Stor</b> :	<i>Decimal Degree Displays:</i>
<b>+</b>	--0.00°
<b>+</b>	--FLOAt ( <i>floating point</i> )
	--0.00° ( <i>repeats options</i> )
Seventh press of <b>Stor</b> :	<i>Fractional Mode:</i>
<b>+</b>	--Std.
<b>+</b>	--COnSt
	--Std. ( <i>repeats options</i> )

## EXAMPLES

### Adding and Subtracting Strings of Dimensions

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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

### Multiplying Dimensions

---

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

KEYSTROKE	DISPLAY
<b>3</b> <b>X</b> <b>1</b> <b>5</b> <b>Feet</b> <b>3</b> <b>Inch</b> <b>3</b> <b>/</b> <b>4</b> <b>=</b>	45 FEET 11-1/4 INCH

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

KEYSTROKE	DISPLAY
<b>5</b> <b>Feet</b> <b>3</b> <b>Inch</b> <b>X</b> <b>1</b> <b>1</b> <b>Feet</b>	
<b>6</b> <b>Inch</b> <b>1</b> <b>/</b> <b>2</b> <b>=</b>	<b>60.59375</b> SQ FEET

## Dividing Dimensions

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

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	<b>0.</b>
<b>1</b> <b>5</b> <b>Feet</b> <b>3</b> <b>Inch</b> <b>3</b> <b>/</b> <b>4</b> <b>÷</b> <b>3</b> <b>=</b>	<b>5 FEET 1-1/4 INCH</b>

*How many 3'6" pieces can you cut from one 25-ft. board?*

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	<b>0.</b>
<b>2</b> <b>5</b> <b>Feet</b> <b>÷</b> <b>3</b> <b>Feet</b> <b>6</b> <b>Inch</b> <b>=</b>	<b>7.142857</b> (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>	<b>0.</b>
<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>	<b>3.058</b> 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> ( $\sqrt{x}$ )	14.14214



## Rectangular Volume

---

Find the 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>X</b>	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>X</b>	261.0503 SQ FEET
<b>1</b> <b>0</b> <b>Inch</b> <b>=</b>	8.057109 CU YD

## Entering Square and Cubic and Adding a Waste Allowance

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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>Conv</b> <b>Inch</b>	126 INCH
<b>Conv</b> <b>m</b>	3.200 M
<b>Conv</b> <b>cm</b>	320.04 CM
<b>Conv</b> <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, Kilograms):*

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> (lbs)	150 LB
<b>Conv</b> <b>6</b> (tons)	0.075 Ton
<b>Conv</b> <b>3</b> (met tons)	0.068039 MET Ton
<b>Conv</b> <b>1</b> (kg)	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> (lbs)	60000. LB
<b>Conv</b> <b>6</b> (tons)	30. Ton
<b>Conv</b> <b>3</b> (met tons)	27.21554 MET Ton
<b>Conv</b> <b>1</b> (kg)	27215.54 kg

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

KEYSTROKE	DISPLAY
<b>2</b> <b>Stor</b> <b>0</b>	<b>STORED</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> ( <i>lbs</i> )	80000. LB
<b>Conv</b> <b>6</b> ( <i>tons</i> )	40. Ton
<b>Conv</b> <b>3</b> ( <i>met tons</i> )	36.28739 MET Ton
<b>Conv</b> <b>1</b> ( <i>kg</i> )	36287.39 kg
<b>Conv</b> <b>X</b>	ALL CLEARed (Clear stored Wt/Vol)

## Using the Memory

Whenever the **M+** key is pressed, the displayed value will be added to the Memory. Other Memory functions:

FUNCTION	KEYSTROKES
Add to Memory	<b>M+</b>
Subtract from Memory	<b>Conv</b> <b>M+</b>
Recall total in Memory	<b>Rcl</b> <b>M+</b>
Display/Clear Memory	<b>Rcl</b> <b>Rcl</b>
Clear Memory	<b>Conv</b> <b>Rcl</b>

(Cont'd)

*(Cont'd)*

Memory is semi-permanent, clearing only when you:

- 1) turn off the calculator;
- 2) press **Rcl** **Rcl**;
- 3) press **Conv** **Rcl**;
- 4) press **Conv** **X** (*Clear All*).

When Memory is recalled (**Rcl** **M+**), consecutive presses of **M+** will display the calculated average and total count of the accumulated values.

*Example:*

KEYSTROKE	DISPLAY
<b>3</b> <b>5</b> <b>5</b> <b>M+</b>	M+ 355. <b>M</b>
<b>2</b> <b>5</b> <b>5</b> <b>M+</b>	M+ 255. <b>M</b>
<b>7</b> <b>4</b> <b>5</b> <b>Conv</b> <b>M+</b> ( <i>M-</i> )	M- 745. <b>M</b>
<b>Rcl</b> <b>M+</b>	TTL <b>STORED</b> - 135. <b>M</b>
<b>M+</b>	AVG - 45. <b>M</b>
<b>M+</b>	CNT 3. <b>M</b>
<b>Rcl</b> <b>Rcl</b>	M+ - 135.

## 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> (Cost)	\$ 22. <sup>18</sup>

## Circle Area and Circumference

---

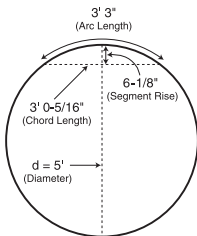
Find the area and circumference of a circle with a diameter of 25 Inches:

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>2</b> <b>5</b> <b>Inch</b> <b>Circ</b>	DIA 25 INCH
<b>Circ</b>	AREA 490.8739 SQ INCH
<b>Circ</b>	CIRC 78-9/16 INCH



## Arc Properties

Find Arc properties 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 5 FEET 0 INCH</b>		
<b>3</b>	<b>Feet</b>	<b>3</b>	<b>Inch</b>	<b>Arc</b>	<b>ARC 3 FEET 3 INCH</b>

2. Find Degree of Arc, Chord Length, Segment Area, Pie Slice Area and Segment Rise:

<b>Arc</b>	<b>ARC 74.48°</b>
<b>Arc</b>	<b>CORD 3 FEET 0-5/16 INCH</b>
<b>Arc</b>	<b>SEG 1.051381 SQ FEET</b>
<b>Arc</b>	<b>PIE 4.0625 SQ FEET</b>
<b>Arc</b>	<b>RISE 0 FEET 6-1/8 INCH</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> (Cost)	\$ 615. <sup>02</sup> (total cost)

## Squaring-up a Foundation

---

Square-up a 10' x 20' foundation:

KEYSTROKE	DISPLAY
<b>On/C</b> <b>On/C</b>	0.
<b>1</b> <b>0</b> <b>Feet</b> <b>Conv</b> <b>%</b> ( $x^2$ )	100. SQ FEET
<b>+</b> <b>2</b> <b>0</b> <b>Feet</b> <b>Conv</b> <b>%</b> ( $x^2$ )	400. SQ FEET
<b>=</b> <b>Conv</b> <b>←</b> ( $\sqrt{x}$ )	22 FEET 4-5/16 INCH

# APPENDIX

## 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:*

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

*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 setting:

<u>STORED VALUE</u>	<u>DEFAULT VALUE</u>
Weight per Volume	1.5 Ton Per CU YD

If you replace your batteries 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 that listed above):

<u>PREFERENCE SETTINGS</u>	<u>DEFAULT VALUE</u>
Fractional Resolution	1/16
Area Display	Standard
Volume Display	Standard
Exponent	Off
Meter Linear Display	0.000
Decimal Degree Display	0.00°
Fractional Mode	Standard

*\*Depressing the Reset button, located toward the lower right-hand corner of the back of the calculator, 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* — 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

(Cont'd)

*(Cont'd)*

*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., 20,000,000 mm is shown as 20,000 m. Also applies to inches, feet and yards.

## **Battery**

---

This model uses **one (1) CR2032** 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 batteries are available at most discount or electronics stores. You may also call Calculated Industries at 1-775-885-4900.

## **Replacing the Battery**

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- 1) Hold calculator upright with back of calculator toward you.
- 2) Lift battery holder out.
- 3) Remove old battery.
- 4) Place new battery with positive side against the bottom of the holder.
- 5) Insert holder into calculator with positive side of battery facing back of calculator.

## **Reset**

---

If your calculator should ever “lock up,” press Reset — a small hole located toward the lower right-hand corner of the back of the calculator — to perform a total reset.

# AREA AND VOLUME FORMULAS

## Area Formulas

---



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



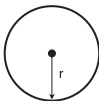
**Triangle**  
Area =  $1/2 ab$



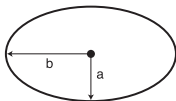
**Rectangle**  
Area =  $lw$



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



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



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



# Volume Formulas

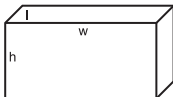
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## Cube

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

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



## Rectangle

$$\text{Surface Area} =$$

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

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

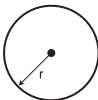


## Cone

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

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

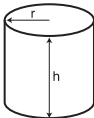
$$\text{Volume} = \frac{\pi r^2 h}{3}$$



## Sphere

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

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



## 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 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 and 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](http://www.calculated.com/warranty)**

# 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, 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.**

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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.

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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 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 Submittal Agreement". Thank you.



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