JOHNSON®

CALC-0000
Material Estimator
Calculator
Operator's Manual

MATERIAL ESTIMATOR CALCULATOR

Key Features:

- Easy to use pre-programmed functions for trade specific calculations

- Provides material estimates for concrete, block, gravel, deck, fence, studs, flooring and paint

- Calculate accurate dimensions for perimeter, area, volume and weight measurements

- Easily convert between building dimensions in both English and Metric

- Units of measure in inches, feet, yards, mm, m and cm

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KEY DEFINITIONS

BASIC FUNCTION KEYS

+ **−** **×** Arithmetic operation keys.

÷ **=**

and **•** Keys used for entering numbers.

% **Percent Key**: Four-function (+, −, x, ÷) 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.

Stor **Store Key**: Used for storing values.

Rcl **Recall Key**: Used with other keys to recall stored values and settings.

UNIT KEYS

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 value) is not entered, the calculator's fractional accuracy setting is automatically used.

KEY DEFINITIONS

UNIT KEYS

Conv **5**   **Meters (m)**: Enters or converts to Meters.

Conv **7**   **Centimeters (cm)**: Enters or converts to Centimeters.

Conv **9**   **Millimeters (mm)**: Enters or converts to Millimeters.

Conv **8**   **Board Feet (Bd Ft)**: Enters or converts Cubic values to Board Feet. One Board Foot is equal to 144 Cubic Inches.

KEY DEFINITIONS

PROJECT KEYS

Paint **Paint**: Calculates volume of paint, based on an entered area and a stored **Paint Coverage per Gallon**. Finds quantity in Gallons, Quarts or Pints upon repeated presses.

Stor **Paint** **Paint Coverage**: Stores Paint Coverage per Gallon in Square Feet. To recall this setting, press **Rcl** **Paint**. Default is 350 Square Feet per Gallon.

Tile **Tile**: Finds the number of tiles, based on an entered area and a user-stored **Grout Width**. Repeated presses will scroll between numbers of tiles for various "standard" tile sizes (24", 18", 16", 13", 12", 10", 8", 6", 4", 2", and 1").

Note: Tile sizes shown in Inches, not Square Inches. In other words, a 6 Inch tile is really 6 Inches x 6 Inches, or a 36 Square Inch tile, but it is labeled as a 6 Inch-size.

Stor **Tile** **Grout Width**: Stores Grout Width in Inches; used in calculating the number of tiles. To recall this setting, press **Rcl** **Tile**. Default is 0 (no grout width).

KEY DEFINITIONS

PROJECT KEYS

Deck　**Deck**: Finds the number of boards for a deck, based on an entered area and a stored Board Width or Board On-center.

Repeated presses will scroll between numbers of boards for various "standard" board lengths (12', 10', 8', 20', 18', 16' and 14').

Stor **Deck**　**Board Width/O.C.**: Stores Board Width or Board On-center, in Inches, for deck or fence calculations. To recall this setting, press **Rcl** **Deck**. Default is 5-11/16 Inches.

Fence　**Fence**: Multi-function key that finds the number of fence boards, number of posts and number of rails (2-Rail and 3-Rail) based on an entered distance, a stored **Board Width/O.C.** and a stored **Post Spacing**.

Stor **Fence**　**Post Spacing**: Stores Post Spacing On-center for fence in Feet-Inches. To recall this setting, press **Rcl** **Fence**. Default is 8 Feet.

KEY DEFINITIONS

PROJECT KEYS

Studs   **Studs**: Calculates number of studs, based on an entered linear distance and a stored **On-center Spacing**.

> Note: Automatically adds one stud to the calculated answer to account for one on the end.

Stor **Studs**   **On-center for Studs**: Stores On-center spacing for studs in Inches. To recall this setting, press **Rcl** **Studs**. Default is 16 Inches.

Flooring   **Flooring**: Calculates the required length for 12', 13', 15' or 6' wide rolls, based on an entered area. Calculates the coverage area, in Square yards, for each roll width, based on the entered length.

Conv **Flooring**   **Sheets**: Calculates the number of 4' x 8', 4' x 9', 4' x 10' and 4' x 12' sheets, based on entered linear distance or area.

Custom Tile   **Custom Tile**: Calculates number of tiles needed based on an entered area and a stored Tile Size. This is used separately from the regular Tile Key (**Tile**).

> Note: Calculation does not account for grout width for custom tiles, so you will need to adjust for this.

KEY DEFINITIONS

PROJECT KEYS

Stor **Custom Tile** — **Custom Tile Size**: Stores Custom Tile Size in Square Inches. To recall this setting, press **Rcl** **Custom Tile**. Default is 24-Square Inches.

Concrete — **Concrete**: Calculates the number of 80 lbs., 60 lbs. and 40 lbs. bags of concrete required, based on an entered volume (e.g., Cubic Feet or Cubic Yards). Calculates the volume of concrete yielded by the entered quantity of bags for each of the three bag sizes.

Conv **Concrete** — **Brick**: Calculates the number of standard 8-Inch-size U.S. bricks (with 3/8" mortar) based on entered linear distance (or area) for both "face"(21-Square Inch) and "paver" (32-Square Inch) brick applications.

Block — **Block**: Calculates the number of standard 128-Square Inch blocks (includes 1/2" mortar), based on an entered linear distance or area and a stored **Block Size**.

PROJECT KEYS

Stor **Block** — **Block Size**: Stores the Block Size. Stores linear entry as Block Length and area as Block Area. To recall this setting, press **Rcl** **Block**. The default length is 16 Inches and the default area is 128 Square Inches (includes 1/2" mortar).

Gravel — **Gravel**: Calculates tons of gravel required, based on an entered volume and a stored **Weight per Volume**.

Stor **Gravel** — **Gravel Weight per Volume**: Stores the number of Tons per Cubic Yard of gravel. To recall this setting, press **Rcl** **Gravel**. Default is 1.5 Tons per Cubic Yard.

Conv **0** — **Cost**: Calculates total material cost based on stored **Unit Cost** and entered or solved material quantity.

Stor **0** — **Unit Cost**: Stores the Unit Cost for calculating the total cost. To recall this setting, press **Rcl** **0**. Default is 0.00 (no Unit Cost).

MISCELLANEOUS FUNCTIONS

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

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

Conv **×** **Clear All**: Clears all values, including M+, and returns all stored values to the default settings (does not affect Preference Settings).

Conv **—** **(+/-) Toggle**

Conv **+** **Pi (π)**: 3.141593

Conv **%** **x^2:** Squares the value in the display.

Conv **Stor** **Preference Settings**

M+ **Memory Key**: Adds the displayed value to Memory. Clears when the calculator is shut off.

Conv **Stor** **Memory Minus (M–)**: Subtracts the displayed value from Memory.

Rcl **M+** **Memory Recall**: Recalls value from Memory without clearing.

Conv **Rcl** **Memory Clear**: Clears Memory without changing current display.

MISCELLANEOUS FUNCTIONS

Rcl **Rcl** **Memory Clear**: Clears Memory and displays Memory Total.

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
On/C **On/C**	0
6 **Feet** **+**	6 FEET 0 INCH
5 **Feet** **+**	11 FEET 0 INCH
4 **Feet** **=**	15 FEET 0 INCH
Rcl **=**	TTL = 15 FEET 0 INCH
+	01 6 FEET 0 INCH
+	02 + 5 FEET 0 INCH
+	03 + 4 FEET 0 INCH
−	02 + 5 FEET 0 INCH
=	TTL = 15 FEET 0 INCH
+ **1** **0** **Feet** **=**	25 FEET 0 INCH

KEY DEFINITIONS

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
+	– 1/32
+	– 1/64
+	– 1/2
+	– 1/4
+	– 1/8
+	– 1/16 (repeats options)
Second press of **Stor** :	Area Displays:
	– Std.
+	– 0. SQ FEET
+	– 0. SQ YD
+	– 0. SQ M
+	– Std. (repeats options)
Third press of **Stor** :	Volume Displays:
	– Std.
+	– 0. CU YD
+	– 0. CU FEET
+	– 0. CU M
+	– Std. (repeats options)
Fourth press of **Stor** :	Meter Linear Displays:
	– 0.000 M
+	– FLOAt M (floating point)
+	– 0.000 M (repeats options)
Fifth press of **Stor** :	Fractional Mode:
	– Std.
+	– COnSt
+	– Std. (repeats options)

ADDING AND SUBTRACTING STRINGS OF DIMENSIONS

Add the following measurements:

- 5 Feet 2-1/2 Inches
- 15 Feet 5-1/4 Inches
- 18.25 Inches

Then subtract 3-1/8 Inches.

KEYSTROKE	DISPLAY
On/C **On/C**	**0**
5 **Feet** **2** **Inch** **1** **/** **2** **+**	**5 FEET 2-1/2 INCH**
1 **5** **Feet** **5** **Inch** **1** **/** **4** **+**	**20 FEET 7-3/4 INCH**
1 **8** **•** **2** **5** **Inch** **=**	**22 FEET 2 INCH**
– **3** **Inch** **1** **/** **8** **=**	**21 FEET 10-7/8 INCH**

MULTIPLYING DIMENSIONS

What is the perimeter of a room with three walls which measure 11 Feet 5-1/4 Inches each?

KEYSTROKE	DISPLAY
3 **✕** **1** **1** **Feet** **5** **Inch** **1** **/** **4** **=**	**34 FEET 3-3/4 INCH**

Multiply 5 Feet 3 Inches by 11 Feet 3-3/4 Inches:

KEYSTROKE	DISPLAY
5 **Feet** **3** **Inch** **✕** **1** **1** **Feet** **3** **Inch** **3** **/** **4** **=**	**59.39063 SQ FEET**

DIVIDING DIMENSIONS

Divide 15 Feet 8-1/2 Inches into thirds (divide by 3):

KEYSTROKE	DISPLAY
On/C On/C	0
1 5 Feet 8 Inch 1 / 2 ÷ 3 =	5 FEET 2-7/8 INCH

How many 3' 6" inch pieces can you cut from one 25' 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 $1,525? :

KEYSTROKE	DISPLAY
On/C On/C	0
1 5 2 5 × 2 5 %	381.25

SQUARE AREA

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

KEYSTROKE	DISPLAY
On/C On/C	0
1 5 Feet 8 Inch 1 / 2	15 FEET 8-1/2 INCH
Conv % (x²)	246.7517 SQ FEET

SQUARE ROOT

What is the Square Root of 300?

KEYSTROKE	DISPLAY
On/C On/C	0
3 0 0 Conv • (√x)	17.32051

ENTERING SQUARE AND CUBIC AND ADDING A WASTE ALLOWANCE

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

KEYSTROKE	DISPLAY
On/C On/C	0
2 0 Feet Feet + 1 0 %	22 SQ FEET
1 5 0 Feet Feet Feet + 2 0 %	180 CU FEET

LINEAR CONVERSIONS

Convert 14 feet 7 Inches to other dimensions, including Metric:

KEYSTROKE	DISPLAY
On/C On/C	0
1 4 Feet 7 Inch	14 FEET 7 INCH
Conv Yds	4.861111 YD
Conv Inch	175 INCH
Conv 5 (m)	4.445 M
Conv 7 (cm)	444.5 CM
Conv 9 (mm)	4445 MM

Convert 15 Feet 3-3/4 Inches to Decimal Feet:

KEYSTROKE	DISPLAY
On/C On/C	0
1 5 Feet 3 Inch 3 / 4	15 FEET 3-3/4 INCH
Conv Feet	15.3125 FEET

Convert 18.25 Feet to Feet-Inches:

KEYSTROKE	DISPLAY
On/C On/C	0
1 8 . 2 5 Feet	18.25 FEET
Conv Feet	18 FEET 3 INCH

SQUARE AND CUBIC CONVERSIONS

Convert 55 Square Feet to Square Yards:

KEYSTROKE	DISPLAY
On/C On/C	0
5 5 Feet Feet	55 SQ FEET
Conv Yds	6.111111 SQ YD

Convert 25 Square Yards to Square Feet:

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

Convert 150 Cubic Feet to Cubic Yards:

KEYSTROKE	DISPLAY
On/C On/C	0
1 5 0 Feet Feet Feet	150 CU FEET
Conv Yds	5.555556 CU YD

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	**M+**
Subtract from Memory	**Conv** **M+**
Recall Total in Memory	**Rcl** **M+**
Display/Clear Memory	**Rcl** **Rcl**
Clear Memory	**Conv** **Rcl**

Memory is semi-permanent, clearing only when you:

1. Turn off the calculator
2. Press **Rcl** **Rcl**
3. Press **Conv** **Rcl**
4. Press **Conv** **×** (Clear All)

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

Example:

KEYSTROKE	DISPLAY
3 **5** **5** **M+**	M+ 355 **M**
2 **5** **5** **M+**	M+ 255 **M**
7 **4** **5** **Conv** **M+** (M-)	M- 745 **M**
Rcl **M+**	TTL **STORED** - 135 **M**
M+	AVG − 45 **M**
M+	CNT 3 **M**
Rcl **Rcl**	M+ − 135

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PAINT: GALLONS, QUARTS OR PINTS OF

How many quarts of paint will you need to cover a wall measuring 15 Feet x 3 Feet? How many Pints?
How many Gallons?

KEYSTROKE	DISPLAY
On/C **On/C**	**0**
1 **5** **Feet** **×** **3** **Feet** **=**	**45.SQ FEET**
Paint	**QT 0.51**
Paint	**PINT 1.03**
Paint	**GAL 0.13**

You can store a custom paint coverage per Gallon by entering the new value then pressing **Stor** **Paint** (e.g., **2** **5** **0** **Feet** **Feet** **Stor** **Paint**). Perform a Clear All (**Conv** **×**) to return to default setting.

TILES: NUMBER OF

How many tiles do you need to cover a floor measuring 14 Feet x 12 Feet? You want a grout width of 1/8 Inch, but you're not sure of the tile size you're going to use. So, find the number of tiles in various sizes. Also, add a 10% waste allowance, in case you need extra tile.

TILES: NUMBER OF (continued)

KEYSTROKE	DISPLAY
On/C On/C	0
1 / 8 Stor Tile	(Grout Width)
	GRT STORED 0-1/8 INCH
1 4 Feet × 1 2 Feet =	168 SQ FEET
+ 1 0 %	184.8 SQ FEET
Tile	TILE 45.72 (24 in)
Tile	TILE 81 (18 in)
Tile	TILE 102.34 (16 in)
Tile	TILE 154.48 (13 in)

Continuous presses of Tile display the number of Tiles for the following sizes: 12", 10", 8", 6", 4", 2", 1".

CUSTOM TILES: NUMBER OF – USING A NON-DEFAULT CUSTOM SIZE

How many tiles do you need if you're using a custom tile size of 4-1/4 Inches x 4-1/4 Inches to cover a floor that is 10 Feet x 15 Feet?

KEYSTROKE	DISPLAY
On/C On/C	0
4 Inch 1 / 4 × 4 Inch	
1 / 4 = Stor Custom Tile	(Tile Size)
	TILE STORED 18.0625 SQ INCH
1 0 Feet × 1 5 Feet =	150. SQ FEET
Custom Tile	TILE 1195.85

PROJECT EXAMPLES

DECK: NUMBER OF BOARDS

Find the number of boards needed to build a deck, if the
deck area measures 8 Feet x 15 Feet.

KEYSTROKE	DISPLAY
On/C On/C	0
1 5 Feet × 8 Feet =	120. SQ FEET
Deck	BDS 22. (12 Ft)
Deck	BDS 26. (10 Ft)
Deck	BDS 32. (8 Ft)
Deck	BDS 13. (20 Ft)
Deck	BDS 15. (18 Ft)
Deck	BDS 16. (16 Ft)
Deck	BDS 19. (14 Ft)
Deck *	BDoc STORED 5-5/8 INCH

* Last press displays stored Board Width. You can store a
custom Board On-center by entering the new value then
pressing Stor Deck (e.g., 4 Inch Stor
Deck). Perform a Clear All (Conv ×) to return to
default setting.

FENCE: NUMBER OF FENCE BOARDS, POSTS AND RAILS

Find the number of fence boards, posts and rails required to build a fence, where the distance for the fence is 55 Feet 4 Inches.

Note: The last two presses in the following example will display stored Post On-center and Board Width.

KEYSTROKE	DISPLAY
On/C **On/C**	**0**
5 **5** **Feet** **4** **Inch**	**55 FEET 4 INCH**
Fence	**BDS 118.**
Fence	**POST 8.**
Fence	**2-RL 14.**
Fence	**3-RL 21.**
Fence	**P-oc** **STORED** **8 FEET 0 INCH**
Fence	**BDoc** **STORED** **5-5/8 INCH**

You can store a custom Post On-center by entering the new value then pressing **Stor** **Fence** (e.g., **6** **Feet** **Stor** **Fence**). Perform a Clear All (**Conv** **×**) to return to default setting.

BOARD FEET: LUMBER ESTIMATION

The default entry format for Board Feet is "Inch x Inch x Feet" (e.g., **5** **×** **6** **×** **1** **5** is 5 Inches x 6 Inches x 15 Feet). You can also convert Cubic values (volume) to Board Feet.

Enter board sizes and calculate Board Feet:

KEYSTROKE	DISPLAY
On/C **On/C**	0
5 **×** **6** **×** **1** **5** **Conv** **8** (Bd Ft)	BDFT 37.5

Enter Cubic Feet and convert to Board Feet:

KEYSTROKE	DISPLAY
1 **5** **0** **Feet** **Feet** **Feet**	150 CU FEET
Conv **8** (Bd Ft)	BDFT 1800.

STUDS: NUMBER OF

How many 16 Inches On-center studs are required for a 55 Feet 8 Inches wall?

KEYSTROKE	DISPLAY
On/C **On/C**	0
5 **5** **Feet** **8** **Inch**	55 FEET 8 INCH
Studs	STUD 43.*

*Automatically includes one stud for the end. You can store a custom Stud On-center by entering the new value then pressing **Stor** **Studs** (e.g., **2** **4** **Feet** **Stor** **Studs**). Perform a Clear All (**Conv** **×**) to return to default setting.

PROJECT EXAMPLES

SHEETS: NUMBER OF

How many 4 x 8, 4 x 9, 4 x 10 or 4 x 12 drywall sheets do you need for a room measuring 12 Feet x 15 Feet?

KEYSTROKE	DISPLAY
On/C **On/C**	**0**
1 **2** **Feet** **+** **1** **2** **Feet** **+**	**24 FEET 0 INCH**
1 **5** **Feet** **+** **1** **5** **Feet** **×**	**54 FEET 0 INCH**
8 **Feet** **=**	**432 SQ FEET**
Conv **Flooring** (Sheets)	**4X8 13.50**
Flooring	**4X9 12.00**
Flooring	**4X10 10.80**
Flooring	**4X12 9.00**

FLOORING: LENGTH OF

Find the length of flooring needed to cover a floor that measures 19 Feet 6 Inches x 5 Feet in area.

KEYSTROKE	DISPLAY
On/C **On/C**	**0**
1 **9** **Feet** **6** **Inch** **×** **5** **Feet** **=**	**97.5 SQ FEET**
Flooring	**LNTH 8.12 FEET (12Ft)**
Flooring	**LNTH 7.5 FEET (13Ft)**
Flooring	**LNTH 6.5 FEET (15Ft)**
Flooring	**LNTH 16.25 FEET (6Ft)**

PROJECT EXAMPLES

CONCRETE: BAGS OF

Find the number of bags of concrete for a patio measuring 12 Feet x 10 Feet x 4 Inches.

KEYSTROKE	DISPLAY
On/C **On/C**	**0**
1 **2** **Feet** **×** **1** **0** **Feet** **×** **4** **Inch** **=**	**1.481481 CU YD**
Concrete	**BAGS 60 (80 Lb)**
Concrete	**BAGS 80 (60 Lb)**
Concrete	**BAGS 120 (40 Lb)**

BRICKS/BLOCKS: NUMBER OF, FOR A WALL

Find the number of bricks, both face and paver, and concrete blocks needed to build a 12 Feet x 8 Feet wall.

KEYSTROKE	DISPLAY
On/C **On/C**	**0**
1 **2** **Feet** **×** **8** **Feet** **=**	**96 SQ FEET**
Conv **Concrete** (Brick)	**FACE 658.29**
Concrete	**PAVR 432**
Concrete	**AREA 96 SQ FEET**
Block	**BLKS 108.00**

You can store a custom block area by entering or solving for the new value then pressing **Stor** **Block** (e.g., **6** **Inch** **×** **1** **6** **Inch** **=** **Stor** **Block**). Perform a Clear All (**Conv** **×**) to return to default setting.

PROJECT EXAMPLES

GRAVEL: TONS OF
How much gravel (in tons) do you need to cover a driveway that is 7 Feet x 16 Feet, at 4 Inches deep?

KEYSTROKE	DISPLAY
On/C **On/C**	**0**
7 **Feet** **×** **1** **6** **Feet** **×** **4** **Inch** **=**	**1.382716 CU YD**
Gravel	**WGHT 2.07 Ton**
Gravel	STORED **1.5 Ton Per CU YD**
Gravel	**VOL 1.382716 CU YD**

You can store a custom Tons per Cubic Yard value by entering the new value, then pressing **Stor** **Gravel** (e.g., **1** **.** **7** **5** **Stor** **Gravel**). Perform a Clear All (**Conv** **×**) to return to default setting.

FINDING THE COST OF MATERIALS

COST OF PAINT
How many Gallons of paint will you need to cover 150 Square Feet? What will the total cost be at $11.75 per Quart?

KEYSTROKE	DISPLAY
On/C **On/C**	**0**
1 **1** **.** **7** **5** **Stor** **0**	**COST** STORED **Per 11.75**
1 **5** **0** **Feet** **Feet**	**150 SQ FEET**
Paint	**QT 1.71**
=	**1.714286**
Conv **0** (Cost)	**TTL$ 20.14**

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

APPENDIX

DEFAULT SETTINGS
After a Clear All (**Conv** **×**), your calculator will return to the following settings:

STORED VALUE	DEFAULT VALUE
Block Area	128. SQ INCH
Block Length	16 INCH
Weight per Volume	1.5 Ton Per CU YD
Board On-Center	5-11/16 INCH
Post On-Center	8 FEET
Studs On-Center	16 INCH
Custom Tile Size	24 SQ INCH
Tile Grout Width	0 INCH
Paint Coverage Area	350 SQ FEET/GALLON
Unit Cost	$0.00

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

PREFERENCE SETTINGS	DEFAULT VALUE
Fractional Resolution	1/16
Area Display	Standard
Volume Display	Standard
Meter Linear Display	0.000
Fractional Mode	Standard

* Pressing the Reset hole located left of the **Off** key will also perform a Full Reset.

AUTO-SHUT OFF
Your calculator will shut itself off after about 8-12 minutes of inactivity.

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. Most material calculations will result in an answer rounded up two places. Press the ▬ key to see the non-rounded value.

Errors — When an incorrect entry is made, or the answer is beyond the range of the calculator, it will display an 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:

DISPLAY	ERROR TYPE
OFLO	Overflow (too large)
MATH Error	Divide by 0
DIM Error	Dimension error
ENT Error	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 "OFLO") — e.g., 20,000,000 mm is shown as 20,000 m. Also applies to inches, feet and yards.

BATTERY

This model uses one CR2032 battery (included). Should your calculator display become very dim, does not power on or remain on, replace the battery.

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

REPLACING THE BATTERY

While the calculator is off, turn the calculator over to remove the battery holder near the center at the top, remove the old battery, and slide new battery into holder. The positive side of the battery should be facing you as you insert the battery into the calculator.

RESET

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

AREA AND VOLUME FORMULAS

AREA FORMULAS

Square
Area = a^2

Triangle
Area = $1/2\ ab$

Rectangle
Area = $l\,w$
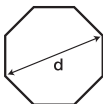
Octagon
Area = $(d/2)^2$ x 2.828
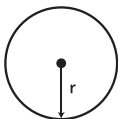
Circle
Circumference = $2\pi r$
Area = πr^2
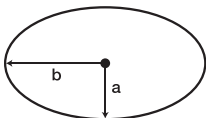
Ellipse
Area = πab

AREA AND VOLUME FORMULAS

VOLUME FORMULAS
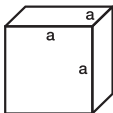
Cube
Surface Area = $6a^2$
Volume = a^3

Rectangle
Surface Area =
$2hw + 2hl + 2lw$
Volume = $l \times w \times h$
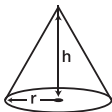
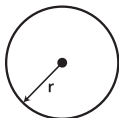### Cone
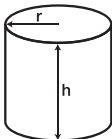Surface Area = $\pi r \sqrt{r^2 + h^2}$
(+ πr^2 if you add the base)

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

Sphere
Surface Area = $4\pi r^2$
Volume = $4/3\pi r^3$

Cylinder
Surface Area = $2\pi rh + 2\pi r^2$
Volume = $\pi r^2 h$

JOHNSON®

PRODUCT WARRANTY

Johnson Level & Tool offers a one-year limited warranty on this product. You can obtain a copy of this warranty on our website or by contacting our customer service department. The limited warranty contains various limitations and exclusions.

Email: service@johnsonlevel.com

Tel: 888-953-8357

Online: www.johnsonlevel.com

PRODUCT REGISTRATION

Please register your product within 30 days of purchase. Registering ensures we have your information on file for warranty service even if you lose your receipt and lets us contact you if there is ever a product recall. We will never sell your information and will only send you marketing information if you opt-in.

To register, scan or click:
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