

# CONVERSION CHARTS & FORMULAS

TO CONVERT	TO	MULTIPLY BY	TO CONVERT	TO	MULTIPLY BY
Inches	Feet	0.0833	Inches of Water	Ounces per Sq. Inch	0.5
Feet	Inches	12	Inches of Water	Pounds per Sq. Foot	5.2
Feet	Yards	0.3333	Inches of Mercury	Inches of Water	13
Yards	Feet	3	Inches of Mercury	Feet of Water	1.1
Square Inches	Square Feet	0.00694	Inches of Mercury	Pounds per Sq. Inch	0.4
Square Feet	Square Inches	144	Ounces per Sq. Inch	Inches of Mercury	0.1
Square Yards	Square Feet	9	Ounces per Sq. Inch	Inches of Water	1.7
Cubic Inches	Cubic Feet	0.00058	Pounds per Sq. Inch	Inches of Water	27
Cubic Feet	Cubic Inches	1728	Pounds per Sq. Inch	Feet of Water	2.3
Cubic Feet	Cubic Yards	0.03703	Pounds per Sq. Inch	Inches of Mercury	2.0
Cubic Yards	Cubic Feet	27	Pounds per Sq. Inch	Atmospheres	0.0
Cubic Inches	Gallons	0.00433	Feet of Water	Pounds per Sq. Inch	0.4
Cubic Feet	Gallons	7.48	Feet of Water	Pounds per Sq. Foot	62
Gallons	Cubic Inches	231	Feet of Water	Inches of Mercury	0.8
Gallons	Cubic Feet	0.1337	Atmospheres	Pounds per Sq. Inch	14
Gallons	Pounds of Water	8.33	Atmospheres	Inches of Mercury	29
Pounds of Water	Gallons	0.12004	Atmospheres	Feet of Water	34
Ounces	Pounds	0.0625	Long Tons	Pounds	224
Pounds	Ounces	16	Short Tons	Pounds	200
Inches of Water	Pounds per Sq. Inch	0.0361	Short Tons	Long Tons	0.89
Inches	Millimeters	25.4	Sq. Miles	Sq. Kilometers	2.590
Millimeters	Inches	0.3937	Sq. Kilometers	Sq. Miles	.3861
Feet	Meters	.3048	Cubic Inches	Cubic Millimeters	1639
Meters	Feet	3.281	cubic Millimeters	Cubic Inches	.000061
Yards	Meters	.9144	Cubic Inches	Cubic Centimeters	16.39
Meters	Yards	1.094	Cubic Centimeters	Cubic Inches	.06102
Miles	Kilometers	1.609	Cubic Feet	Cubic Meters	.0283
Kilometers	Miles	.6214	Cubic Meters	Cubic Feet	35.31
Sq. Inches	Sq. Centimeters	6.452	Cubic Yards	Cubic Meters	.7646
Sq. Centimeters	Sq. Inches	.1550	Cubic Meters	Cubic Yards	1.308
Sq. Feet	Sq. Meters	.0929	Grams	Centigrams	6.48
Sq. Meters	Sq. Feet	10.76	Centigrams	Grams	.1543
Sq. Meters	Sq. Yards	1.196	Ounces	Grams	31.103
Acres	Hectares	.4047	Grams	Ounces	.03527
Hectares	Acres	2.471	Pounds	Kilograms	.4536
Acres	Sq. Kilometers	.004047	Kilograms	Pounds	2.2046
Sq. Kilometers	Acres	247.1	Tons(2000#)	Metric Tons	.9078
Inches of Water	Inches of Mercury	0.0	Metric Tons	Tons (2000#)	1.1023

METRIC UNIT	METERS	INCHES	FEET	YARDS	MILES	METRIC UNIT	STERE	CU. INCHES	CU. FEET	CU. YARDS
Millimeter (mm)	.001	--	--	--	--	Cu Millimeter	.000000001	--	--	--
Centimeter (cm)	.01	.3937	--	--	--	Cu. Centimeter	.000001	.06102	--	--
Decimeter (dm)	.1	3.937	.3281	.1094	--	Cu. Decimeter	.001	61.023	--	--
Meter (m)	1	39.37	3.281	1.094	--	Desistere (ds)	.1	6102.3	3.531	.1308
Decameter (dkm)	10	393.7	32.81	10.94	--	Stere (s)	1	61023	35.31	1.308
Hectometer (hm)	100	3937	328.1	109.4	--	Cu. Meter	1	61023	35.31	1.308
KiloMeter (km)	1000	--	3281	1094	.6214	Decastere (dks)	10	--	352.1	13.08

METRIC UNIT	CENTARES	SQ. INCHES	SQ FEET	SQ. YARDS	ACRES	METRIC UNIT	GRAMS	GRAINS	OUNCES	POUNDS
Sq. Millimeter	.000001	--	--	--	--	Milligram (mg)	.001	.01543	--	--
Sq. Centimeter	.0001	.1550	--	--	--	Centigram (cg)	.01	.1543	--	--
Sq. Decimeter	.01	15.50	.1076	--	--	Decigram (dg)	.1	1.543	--	--
Centare (ca)	1	1550	10.76	1.196	--	Gram	1	15.43	.03527	--
Sq. Meter	1	1550	10.76	1.196	--	Decagram (dkg)	10	154.3	.3527	--
Are (a)	100	--	1076	119.6	--	Hectogram (hg)	100	1543	3.527	.22046
Hectare (ha)	10,000	--	--	--	2.471	Kilogram (kg)	1000	--	35.27	2.2046
Sq. Kilometer	1,000,000	--	--	--	247.1	Quintal (q)	100,000	--	3527	220.46
						Metric Ton	1,000,000	--	--	2204.6

**INFORMATION ONLY**

## GENERAL INFORMATION

To find circumference of circle,  
multiply diameter by 3.1416

To find diameter of a circle,  
multiply circumference by .31813

To find area of a circle,  
multiply square of diameter by .7854

Area of a rectangle equals length multiplied by breadth.

Doubling the diameter of a circle  
increases its area four times.

To find a area of a triangle,  
multiply base by 1/2 perpendicular height.

Area of ellipse equals  
product of both diameters times .7854

Area of a parallelogram equals base times altitude.

To find side of an inscribed square, multiply diameter  
by 0.7071 or multiply circumference  
by 0.2251 or divide circumference by 4.4428

Side of inscribed cube.  
equals radius of sphere times 1.1547

To find side of an equal square,  
multiply diameter by .8862

Square: A side multiplied by 1.4142 equals diameter  
or its circumscribing circle.

A side multiplied by 4.443 equals the  
circumference of its circumscribing circle.

A side multiplied by 1.128 equals diameter  
of an equal circle.

A side multiplied by 3.547 equals  
circumference of an equal circle.

### FLOW:

1 gal. per min = 0.134 cu. ft. per min.  
= 500 lb. per hr. x sp. gr.  
500 lb. per hr. = 1 gal per min % sp. gr.  
1 cu. ft. per min. = 448.8 gal. per hr.

### PRESSURE:

1 lb. per sq. in. = 2.31 ft. water at 60°F.  
= 2.04 in. hg at 60°F.  
1 ft. water at 60°F = 0.4333 lb. per sq. in.  
= 0.0884 in. hg at 60°F  
1 in. hg at 60°F = 0.49 lb. per sq. in.  
= 1.13 ft. water at 60°F  
1 lb. per sq. in. = lb. per sq. in. gauge  
+14.7 Absolute

To find cubic inches in a ball,  
multiply cube of diameter by .5236

To find cubic contents of a cone,  
multiply area of base by 1/3 the altitude.

Surface of frustum of cone or pyramid equals sum of  
circumference of both ends times 1/2 slant  
height plus area of both ends.

To find contents of frustum of cone or pyramid  
multiply area of two ends and get square root.  
Add the two areas and times 1/3 altitude.

Doubling the diameter of a pipe increases  
its capacity four times.

A gallon of water (U.S. Standard) weighs 8.33 lbs.  
and contains 231 cubic inches

A cubic foot of water contains 7.50 gallons,  
1728 cubic inches, and weighs 62.41 lbs.

To find the pressure in pounds per square inch of a col  
umn of water, multiply the height of the column  
in feet by .434.

Steam rising from water at its boiling point (212°F) has a  
pressure equal to the atmosphere (14.7 lbs. to  
the square inch).

A standard horse power: The evaporation of 30 lbs. or  
water per hour from a feed water temperature of  
100°F into steam at 70 lbs. gauge pressure.

To find capacity (in U.S. gallons) of tanks any size,  
given dimensions of a cylinder in inches, square  
the diameter, multiply by the length and by  
.0034

To ascertain heating surface in tubular boilers,  
multiply 2/3 the circumference of boiler by  
length of boiler in inches and add it to the area  
of all the tubes.

### TEMPERATURE:

°C = ( °F-32) x .556  
°F = C(1.8) +32

### VOLUME:

1 gal (U.S.) = 128 fl. oz. (U.S.)  
= 231 cu. in.  
= 0.833 gal. (Brit.)  
1 cu. ft. = 7.48 gal. (U.S)

### MASS:

1 lb. (avoir) = 16 oz. (avoir)  
= 7000 grain  
1 ton (short) = 2000 lb.  
1 ton (long) = 2240 lb.