

THERMOMETER SCALE

Celsius – Fahrenheit

Celsius = 5/9 (F - 32)				Fahrenheit – 9/5 C + 32			
C	F	C	F	C	F	C	F
-35	-31.0	13	55.4	49	120.2	85	185.0
-30	-22.0	14	57.2	50	122.0	86	186.8
-25	-13.0	15	59.0	51	123.8	87	188.6
-20	-4.0	16	60.8	52	125.6	88	190.4
-19	-2.2	17	62.6	53	127.4	89	192.2
-18	-.4	18	64.4	54	129.2	90	194.0
-17	1.4	19	66.2	55	131.0	91	195.8
-16	3.2	20	68.0	56	132.8	92	197.6
-15	5.0	21	69.8	57	134.6	93	199.4
-14	6.8	22	71.6	58	136.4	94	201.2
-13	8.6	23	73.4	59	138.2	95	203.0
-12	10.4	24	75.2	60	140.0	96	204.8
-11	12.2	25	77.0	61	141.8	97	206.6
-10	14.0	26	78.8	62	143.6	98	208.4
-9	15.8	27	80.6	63	145.4	99	210.2
-8	17.6	28	82.4	64	147.2	100	212.0
-7	19.4	29	84.2	65	149.0	105	221.0
-6	21.2	30	86.0	66	150.8	110	230.0
-5	23.0	31	87.8	67	152.6	115	239.0
-4	24.8	32	89.6	68	154.4	120	248.0
-3	26.6	33	91.4	69	156.2	130	266.0
-2	28.4	34	93.2	70	158.0	140	284.0
-1	30.2	35	95.0	71	159.8	150	302.0
0	32.0	36	96.8	72	161.6	160	320.0
1	33.8	37	98.6	73	163.4	170	338.0
2	35.6	38	100.4	74	165.2	180	356.0
3	37.4	39	102.2	75	167.0	190	374.0
4	39.2	40	104.0	76	168.8	200	392.0
5	41.0	41	105.8	77	170.6	250	482.0
6	42.8	42	107.6	78	172.4	300	572.0
7	44.6	43	109.4	79	174.2	350	662.0
8	46.4	44	111.2	80	176.0	400	752.0
9	48.2	45	113.0	81	177.8	500	932.0
10	50.0	46	114.8	82	179.6	600	1112.0
11	51.8	47	116.0	83	181.4	800	1472.0
12	53.6	48	118.4	84	183.2	1000	1832.0

WEIGHTS AND MEASURES

Troy Weight

24 grains = 1 pennyweight 12 ounces = 1 pound
20 pennyweights = 1 ounce 3.168 grains = 1 carat

Used for weighing gold, silver and jewels

Apothecaries' Weight

20 grains = 1 scruple 8 drams = 1 ounce
3 scruples = 1 dram 12 ounces = 1 pound

The ounce and pound in this are the same as in Troy Weight

Avoirdupois Weight

27 – 11/32 grains = 1 dram 4 quarters = 1 hundredweight
16 drams = 1 ounce 2000 pounds = 1 short ton
16 ounces = 1 pound 2240 pounds = 1 long ton
25 pounds = 1 quarter

Dry Measure

2 pints = 1 quart 4 pecks = 1 bushel
8 quarts = 1 peck 36 bushels = 1 chaldron

Liquid Measure

4 gills = 1 pint 31 – 1/2 gallons = 1 barrel
2 pints = 1 quart 2 barrels = 1 hogshead
4 quarts = 1 gallon 1 gallon = 231 cubic inches

Mariners' Measure

6 feet = 1 fathom 5280 feet = 1 statute mile
120 fathoms = 1 cable length 6086 feet = 1 nautical mile
7 – 1/2 cable lengths = 1 mile

Miscellaneous

3 inches = 1 palm 18 inches = 1 cubit
4 inches = 1 hand 21.8 inches = 1 Bible cubit
6 inches = 1 span 2 - 1/2 feet = 1 military pace

Square Measure

144 square inches = 1 square foot 40 square rods = 1 rood
9 square feet = 1 square yard 4 rods = 1 acre
30 – 1/4 square yards = 1 square rod 640 acres = 1 square mile

Surveyor's Measure

7.92 inches = 1 link 36 square miles (6 miles square) =
1 township
25 links = 1 rod 4 rods = 1 chain
10 square chains or 160 square rods = 1 acre 640 acres = 1 square mile

Cubic Measure

1728 cubic inches = 1 cubic foot 1 cubic foot = about four-fifths of a
bushel
27 cubic feet = 1 cubic yard 128 cubic feet = 1 cord (wood)
2150.42 cubic inches = 1 standard bushel 40 cubic feet = ton (shipping)
268.8 cubic inches = 1 standard gallon

Long Measure

12 inches = 1 foot 40 rods = 1 furlong
3 feet = 1 yard 8 furlongs = 1 statute mile
5 – 1/2 yards = 1 rod 3 miles = 1 league

GENERAL CONVERSION TABLE

BTU x 777.5 = Foot Pounds
BTU x 1055 = Joules
BTU x 0.000293 = Kilowatt hours
BTU per minute x 13.0 = Foot pounds per second
BTU per minute x 0.0176 = Kilowatts
BTU per hour x 0.000293 = Kilowatts
Cubic feet x 0.02832 = Cubic meters
Cubic feet per minute x 7.48 = US Gallons per minute
Cubic inches x 16.387 = Cubic centimeters
Cycles per second = Hertz
Degrees x 0.01745 = Radians
Degrees Celsius x 1.8 + 32 = Degrees Fahrenheit
Degrees Celsius = (Degrees Fahrenheit – 32) + 1.8
Feet x 30.48 = Centimeters
Feet x 0.3048 = Meters
Feet of water x 0.883 = Inches of Mercury
Feet of water x 63.43 = Pounds per square foot
Feet of water x 0.43135 = Pounds per square inch
Feet per minute x 0.0114 = Miles per hour
Feet per second x 0.682 = Miles per hour
Feet per second x 0.3048 = Meters per second
Foot-pounds x 0.00229 = BTU
Foot-pounds x 5.05/10,000,000 = Horsepower hours
Foot-pounds x 3.77/10,000,000 = Kilowatt hours
Foot-pounds x 1.356 = Joules
Foot-pounds x 1.356 = Newton meters
Foot-pounds per minute x 0.00129 = BTU per minute
Foot-pounds per minute x 3.03/100,000 = Horsepower
Foot-pounds per second x 0.00182 = Horsepower
Foot-pounds per second x 1.356 = Watts
Gallons (US) x 3.785 = Liters
Gallons (US) x 0.134 = Cubic feet
Gallons (Imperial) x 1.2 = US Gallons
Horsepower x 746 = Watts
Horsepower x 42.4 = BTU per minute
Horsepower x 33,000 = Foot-pounds per minute
Horsepower x 550 = Foot-pounds per second
Horsepower x 0.746 = Kilowatts
Horsepower Boiler x 33,520 = BTU per hour
Horsepower Boiler x 9.80 = Kilowatts
Horsepower hours x 2550 = BTU
Horsepower hours x 1,980,000 = Foot-pounds
Inches x 2.54 = Centimeters
Inches of mercury x 1.133 = feet of water
Inches of mercury x 70.7 = Pounds per square foot
Inches of mercury x 0.491 = Pounds per square inch
Inches of mercury x 3.374 = Kilopascals
Inches of water x 0.0735 = Inches of Mercury
Inches of water x 5.2 = Pounds per square foot
Inches of water x 0.2486 = Kilopascals
Inch pounds x 0.1130 = Newton meters
Kilowatts x 56.9 = BTU per minute
Kilowatts x 3412 = BTU per hour
Kilowatts x 1.341 = Horsepower
Kilowatt hours x 3412 = BTU
Kilowatt hours x 1.34 = Horsepower hours
Miles per hour x 1.47 = Feet per second
Miles per hour x 0.447 = Meters per second
Miles per hour x 1.609 = Kilometers per hour
Minutes x 0.000291 = Radians
Pounds mass x 0.4536 = Kilograms
Pounds force x 4.448 = Newtons
Pounds per cubic foot x 16.02 = Kilograms per cubic meter
Pounds per cubic foot x 16.02 = Grams per liter
Pounds per square foot x 0.016 = Feet of water
Pounds per square inch x 2.31 = Feet of water
Pounds per square inch x 144 = Pounds per square foot
Pounds per square inch x 6.895 = Kilopascals
Radians x 57.3 = Degrees
Radians x 3438 = Minutes
Revolutions x 6.28 = Radians
Revolutions per minute x 0.105 = Radians per second
Square inches x 1,273,000 = Circular Mills
Square inches x 6.452 = Square centimeters
Square feet x 0.0929 = Square meters



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CONVERSION CHARTS

METRIC SYSTEM

Prefixes

Pico	=	One trillionth	Deca	=	Ten
Nano	=	One billionth	Hecto	=	One hundred
Micro	=	One millionth	Kilo	=	One thousand
Milli	=	One one-thousandth	Myria	=	Ten thousands
Centi	=	One one-hundredth	Mega	=	One million
Deci	=	One tenth	Giga	=	One billion
			Tera	=	One trillion

Metric Measurements

Inch	=	.0254 meters	Meter	=	3.28 ft.
Foot	=	.305 meters	Meter	=	1.09 yds.
Yard	=	.914 meters	Kilometer	=	.621 miles
Mile	=	1.609 kilometers	Kilometer	=	3,280 ft.
Sq. In.	=	6.45 sq. cms.	Sq. Cm.	=	155 sq. in.
Sq. Ft.	=	.0929 sq. meters	Sq. Meter	=	10.76 sq. ft.
Sq. Yd.	=	.936 sq. meters	Sq. Meter	=	1.196 sq. yds.
Cu. In.	=	16.3876 cu. cms.	Cu. Cm.	=	.061 cu. in.
Cu. Ft.	=	.0283 cu. meters	Cu. Meter	=	35.31 cu. ft.
Cu. Yd.	=	.765 cu. meters	Cu. Meter	=	1.308 cu. yds.
Meter	=	39.37 inches	Gallon	=	3.78 liters

Conversion	Metric Designator and Trade Sizes																												
	<table><tr><th>Metric Designator</th><th>Trade Size</th></tr><tr><td>12</td><td>3/8</td></tr><tr><td>16</td><td>1/2</td></tr><tr><td>21</td><td>3/4</td></tr><tr><td>27</td><td>1</td></tr><tr><td>35</td><td>1 1/4</td></tr><tr><td>41</td><td>1 1/2</td></tr><tr><td>53</td><td>2</td></tr><tr><td>63</td><td>2 1/2</td></tr><tr><td>78</td><td>3</td></tr><tr><td>91</td><td>3 1/2</td></tr><tr><td>103</td><td>4</td></tr><tr><td>129</td><td>5</td></tr><tr><td>155</td><td>6</td></tr></table>	Metric Designator	Trade Size	12	3/8	16	1/2	21	3/4	27	1	35	1 1/4	41	1 1/2	53	2	63	2 1/2	78	3	91	3 1/2	103	4	129	5	155	6
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Miles x 1609 = Meters																													
Miles x 1.609 = Kilometers																													
Millimeters x .03937 = Inches																													
Centimeters x .3937 = Inches																													
Meters x 39.37 = Inches																													
Meters x 3.281 = Feet																													
Meters x 1.094 = Yards																													
Kilometers x .621 = Miles																													
Sq. Centimeters x .155 = Square Inches																													
Sq. Meters x 10.764 = Square Feet																													
Sq. Meters x 1.186 = Square Yards																													
Cubic Centimeters x .061 = Cubic Inches																													
Cubic Inches x 16.2 = Cubic Centimeters																													
Liters x .2642 = Gallons																													
Gallons x 3.78 = Liters																													
Cubic Meters x 1.308 = Cubic Yards																													
Cubic Yards x .765 = Cubic Meters																													