

TABLE OF COMMON CONVERSION FACTORS

LENGTH

	cm	m	km	in	ft	yd	mi	n mile
1 centimeter (cm)	1	0.01	10^{-5}	0.3937	0.03281	0.01094	$6.214 \cdot 10^{-6}$	$5.400 \cdot 10^{-6}$
1 meter	10^2	1	10^{-3}	39.37	3.281	1.094	$6.214 \cdot 10^{-4}$	$5.400 \cdot 10^{-4}$
1 kilometer (km)	10^5	10^3	1	39,370	3,281	1,094	0.6214	0.5400
1 inch (in)	2.54	0.0254	$2.54 \cdot 10^{-5}$	1	0.08333	0.02777	$1.578 \cdot 10^{-5}$	$1.371 \cdot 10^{-5}$
1 foot (ft)	30.48	0.3048	$3.48 \cdot 10^{-4}$	12	1	0.3333	$1.894 \cdot 10^{-4}$	$1.646 \cdot 10^{-4}$
1 yard (yd)	91.44	0.9144	$9.144 \cdot 10^{-4}$	36	3	1	$5.682 \cdot 10^{-4}$	$4.937 \cdot 10^{-4}$
1 mile (mi)	160,900	1,609	1.609	63,360	5,280	1,760	1	0.8690
1 nautical mile (nmi)	185,200	1,852	1.852	72,913	6,076	2,025	1.1501	1

AREA

	cm ²	m ²	km ²	ha	in ²	ft ²	ac	mi ²
1 sq-cm (cm ²)	1	0.0001	10^{-10}	10^{-8}	0.1550	0.001076	$2.471 \cdot 10^{-8}$	$3.861 \cdot 10^{-11}$
1 sq-m (m ²)	10^4	1	10^{-6}	10^{-4}	1,550	10.76	$2.471 \cdot 10^{-4}$	$3.861 \cdot 10^{-7}$
1 sq-km (km ²)	10^{10}	10^6	1	100	$1.550 \cdot 10^9$	$1.076 \cdot 10^7$	247.1	0.3861
1 hectare (ha)	10^8	10,000	10^{-2}	1	$1.550 \cdot 10^{-7}$	$1.076 \cdot 10^5$	2.471	0.003861
1 sq-in (in ²)	6.452	$6.452 \cdot 10^{-4}$	$6.452 \cdot 10^{-10}$	$6.452 \cdot 10^{-8}$	1	0.006944	$1.594 \cdot 10^{-7}$	$2.491 \cdot 10^{-10}$
1 sq-ft (ft ²)	929.0	0.09290	$9.290 \cdot 10^{-8}$	$9.290 \cdot 10^{-6}$	144	1	$2.296 \cdot 10^{-5}$	$3.587 \cdot 10^{-8}$
1 acre (ac)	$4.047 \cdot 10^7$	4,407	$4.047 \cdot 10^{-3}$	0.4047	$6.273 \cdot 10^6$	43,560	1	$1.563 \cdot 10^{-3}$
1 sq-mi (section)	$2.590 \cdot 10^{10}$	$2.590 \cdot 10^6$	2.590	259.0	$4.007 \cdot 10^9$	$2.788 \cdot 10^7$	640	1

VOLUME (CAPACITY)

	cm ³	m ³	L	in ³	ft ³	gal	oz
1 cu-cm (cm ³ , cc)	1	10^{-6}	0.001	0.06102	$3.531 \cdot 10^{-5}$	$2.642 \cdot 10^{-4}$	0.03381
1 cu-m (m ³)	10^6	1	1,000	$6.102 \cdot 10^4$	35.31	264.2	$3.381 \cdot 10^4$
1 liter (L, l)	1,000	0.001	1	61.03	0.03531	0.2642	33.81
1 cu-in (in ³)	16.39	$1.639 \cdot 10^{-5}$	0.01639	1	$5.787 \cdot 10^{-4}$	$4.329 \cdot 10^{-3}$	0.5541
1 cu-ft (ft ³)	$2.832 \cdot 10^4$	0.02832	28.32	1,728	1	7.481	957.5
1 gallon (gal)	3,785	$3.785 \cdot 10^{-3}$	3.785	231	0.1337	1	128
1 fluid ounce (oz)	29.57	$2.957 \cdot 10^{-5}$	$2.957 \cdot 10^{-2}$	1.805	$1.044 \cdot 10^{-3}$	$7.813 \cdot 10^{-3}$	1

Miscellaneous Volume Conversions (Liquid Measure)

1 barrel (bbl) = 42 gal	1 gal = 4 quarts (qt) = 8 pints (pt) = 16 cups (c) = 128 oz
	1 oz = 2 tablespoons (tbsp) = 6 teaspoons (tsp)

MASS / WEIGHT

	gm	kg	oz	lb	ton
1 gram (g, gm)	1	10^{-3}	0.03527	$2.205 \cdot 10^{-3}$	$1.102 \cdot 10^{-6}$
1 kilogram (kg)	10^3	1	35.27	2.205	$1.102 \cdot 10^{-3}$
1 ounce (oz)	28.35	0.02835	1	0.0625	$3.125 \cdot 10^{-5}$
1 pound (lb)	453.6	0.4536	16	1	$5 \cdot 10^{-4}$
1 short ton (ton)	$9.072 \cdot 10^5$	907.2	$3.2 \cdot 10^4$	2,000	1

Mass vs. Volume

1 cc water at 4° C = 1 gm of mass

1 kg H₂O at 4° C = 1 kg of mass

FORCE

	dyne	N	lbf
1 dyne	1	10^{-5}	$2.248 \cdot 10^{-6}$
1 Newton (N)	10^5	1	$2.248 \cdot 10^{-1}$
1 pound force (lbf)	$4.448 \cdot 10^5$	4.448	1

Mass vs. Force

Acceleration due to Earth's gravity (g) = 9.807 m/sec²

1 N = 1 kg-m/sec²

1 kg (subject to Earth's gravity) = 9.807 N

Miscellaneous Length Conversions

1 fathom (fath) = 6 ft	1 chain = 66 ft	1 rod = 16.5 ft	1 light yr (lt-yr) $\approx 5.878 \cdot 10^{12}$ mi	1 Angstrom (Å) = 10^{-10} m
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