

CONVERSION FACTORS

Length

1 kilometer (km)	=	1000 meters (m)
1 meter (m)	=	100 centimeters (cm)
1 centimeters (cm)	=	10^{-2} m
1 millimeter (mm)	=	10^{-3} m
1 micron (μ)	=	10^{-6} m
1 millimicron (m μ)	=	10^{-9} m
1 angstrom (A)	=	10^{-10} m
1 inch (in.)	=	2.540 cm
1 foot (ft)	=	30.48 cm
1 mile (mi)	=	1.609 km
1 centimeters (cm)	=	0.3937 in.
1 meter (m)	=	39.37 in.
1 kilometer (km)	=	0.6214 mile

Areas

1 square meter (m ²)	=	10.76 ft ²
1 square foot (ft ²)	=	929 cm ²
1 square mile (mi ²)	=	640 acres
1 acre	=	43,560 ft ²

Volume

1 liter (l)	=	1000 cm ³
	=	1.057 quart (qt)
	=	61.02 in ³
	=	0.03532 ft ³
1 cubic meter (m ³)	=	1000 l
	=	35.32 ft ³
1 cubic foot (ft ³)	=	7.481 U.S.gal
	=	0.02832 m ³
	=	28.32 l
1 U.S.gallon (gal)	=	231 in ³
	=	3.785 l
1 British gallon	=	1.201 U.S.gallon
	=	277.4 in ³



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Mass

1 kilogram (kg)	=	2.2046 pounds (lb)
	=	0.06852 slug
1 pound (lb)	=	453.6 gm
	=	0.03108 slug
1 slug	=	32.174 lb
	=	14.59 kg

Speed

1 km/hr	=	0.2778 m/sec
	=	0.6214 mi/hr
	=	0.9113 ft/sec
1 mi/hr	=	1.467 ft/sec
	=	1.609 km/hr
	=	0.4470 m/sec

Density

1 gm/cm ³	=	10 ³ kg/m ³
	=	62.43 lb/ft ³
	=	1.940 slug/ft ³
1 lb/ft ³	=	0.01602 gm/cm ³
1 slug/ft ³	=	0.5154 gm/cm ³

Force

1 newton (N)	=	10 ⁵ dynes
	=	0.1020 kgwt
	=	0.2248 lbwt
1 pound weight (lbwt)	=	4.448 N
	=	0.4536 kgwt
	=	32.17 poundals
1 kilogram weight (kgwt)	=	2.205 lbwt
	=	9.807 N
1 U.S.short ton	=	2000 lbwt
1 long ton	=	2240 lbwt
1 metric ton	=	2205 lbwt



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Energy

1 joule	= 1 N m
	= 10^7 ergs
	= 0.7376 ft lbwt
	= 0.2389 cal
	= 9.481×10^{-4} Btu
1 ft lbwt	= 1.356 joules
	= 0.3239 cal
	= 1.285×10^{-3} Btu
1 calorie (cal)	= 4.186 joules
	= 3.087 ft lbwt
	= 3.968×10^{-3} Btu
1 Btu	= 778 ft lbwt
(British thermal unit)	= 1055 joules
	= 0.293 watt hr
1 kilowatt hour (kw hr)	= 3.60×10^6 joules
	= 860.0 kcal
	= 3413 Btu
1 electron volt (ev)	= 1.602×10^{-19} joule

Power

1 watt	= 1 joule/sec
	= 10^7 ergs/sec
	= 0.2389 cal/sec
1 horsepower (hp)	= 550 ft lbwt/sec
	= 33,000 ft lbwt/min
	= 745.7 watts
1 kilowatt (kw)	= 1.341 hp
	= 737.6 ft lbwt/sec
	= 0.9483 Btu/sec

Pressure

1 N/m ²	= 10 dynes/cm ²
	= 9.869×10^{-6} atmosphere
	= 2.089×10^{-2} lbwt/ft ²
1 lbwt/in ²	= 6895 N/m ²
	= 5.171 cm mercury
	= 27.68 in. water
1 atmosphere	= 1.013×10^5 N/m ²
(atm)	= 1.013×10^6 dynes/cm ²
	= 14.70 lbwt/in ²
	= 76 cm mercury
	= 406.8 in. water

