

CONVERSION TABLES

Speed

v	m/s	km/h	ft/min	mph
1 metre per second (m/s)	1	3.599	196.85	2.237
1 kilometre per hour (km/h)	0.2778	1	54.68	0.6214
1 foot per minute (ft/min)	$5.08 \cdot 10^{-3}$	$18.3 \cdot 10^{-3}$	1	$11.4 \cdot 10^{-3}$
1 mile per hour (mph)	0.447	1.609	88	1

Force

F	N	kp	lbf	pdl
1 newton (N)	1	0.10197	0.2248	7.232
1 kilopond (kp)	9.80665	1	2.205	70.93
1 poundforce (lbf)	4.44822	0.4536	1	32.17
1 poundal (pdl)	0.13826	$14.09 \cdot 10^{-3}$	$31.08 \cdot 10^{-3}$	1

Revolution

n	r/min	r/s	rad/s
1 revolution per minute (r/min)	1	$16.67 \cdot 10^{-3}$	0.105
1 revolution per second (r/s)	60	1	6.28
1 radian per second (rad/s)	9.55	0.159	1

Mass

m	kg	lb
1 kilogram (kg)	1	2.205
1 pound (lb)	0.45359	1

Pressure

P	MPa=N/mm ²	Pa=N/m ²	bar	atm	psi	kp/cm ²	kp/mm ²
1 megapascal (MPa) = N/mm ²	1	10 ⁶	10	9.869	145.04	10.197	0.102
1 pascal (Pa) = N/m ²	10 ⁻⁶	1	$10 \cdot 10^{-6}$	$9.869 \cdot 10^{-6}$	$145.04 \cdot 10^{-6}$	$10.197 \cdot 10^{-6}$	$0.102 \cdot 10^{-6}$
1 bar	0.1	$0.1 \cdot 10^6$	1	0.9869	14.504	1.01972	$10.197 \cdot 10^{-3}$
1 atmosphere (atm)	0.101	$101.325 \cdot 10^3$	1.0133	1	14.696	1.0332	$10.332 \cdot 10^{-3}$
1 psi	$6.895 \cdot 10^{-3}$	$6.895 \cdot 10^3$	$68.948 \cdot 10^{-3}$	$68.04 \cdot 10^{-3}$	1	$70.3 \cdot 10^{-3}$	$0.703 \cdot 10^{-3}$
1 kp/cm ²	$98.07 \cdot 10^{-3}$	$98.07 \cdot 10^3$	0.9807	0.968	14.2233	1	0.01
1 kp/mm ²	9.807	$9.807 \cdot 10^6$	98.067	96.784	1422.33	100	1

Temperature

T	°C	K	°F	°R
1 Celsius (°C)	1	274.15	33.8	0.8
1 Kelvin (K)	-272.15	1	-457.87	-217.72
1 Fahrenheit (°F)	-17.2	255.93	1	-13.78
1 Réaumur (°R)	1.25	274.4	34.25	1

Temperature – Water

T	Water freezing point	Water boiling point
Celsius (°C)	0	100
Kelvin (K)	273.15	373.15
Fahrenheit (°F)	32	212
Réaumur (°R)	0	80

Conversion

°C = 5/4R = 5/9(F-32)
K = C + 273.15
°F = 32 + 9/5C
°R = 4/5C = 4/9(F-32)

Area

A	mm ²	cm ²	m ²	in ²	ft ²	yd ²
1 square millimetre (mm ²)	1	0.01	10 ⁻⁶	$1.55 \cdot 10^{-3}$	$10.764 \cdot 10^{-6}$	$1.196 \cdot 10^{-6}$
1 square centimetre (cm ²)	100	1	$0.1 \cdot 10^{-3}$	0.155	$1.076 \cdot 10^{-3}$	$119.599 \cdot 10^{-6}$
1 square metre (m ²)	10 ⁶	$10 \cdot 10^3$	1	$1.55 \cdot 10^3$	10.764	1.196
1 square inch (in ²)	645.16	6.4516	$645.16 \cdot 10^{-6}$	1	$6.944 \cdot 10^{-3}$	$771.6 \cdot 10^{-6}$
1 square foot (ft ²)	$92.9 \cdot 10^3$	929.03	$92.9 \cdot 10^{-3}$	144	1	0.1111
1 square yard (yd ²)	$836.1 \cdot 10^3$	$8.361 \cdot 10^3$	0.8361	$1.296 \cdot 10^3$	9	1

Length and distance

L	mm	cm	m	1"	ft	yd	miles
1 millimetre (mm)	1	0.1	10 ⁻³	0.394	$3.3 \cdot 10^{-3}$	$1.1 \cdot 10^{-3}$	$0.621 \cdot 10^{-6}$
1 centimetre (cm)	10	1	0.01	0.3937	$32.8 \cdot 10^{-3}$	$10.9 \cdot 10^{-3}$	$6.21 \cdot 10^{-6}$
1 metre (m)	10 ³	100	1	39.3701	3.2808	1.0936	$621.4 \cdot 10^{-6}$
1 inch (")	25.4	2.54	$25.4 \cdot 10^{-3}$	1	$83.3 \cdot 10^{-3}$	$27.78 \cdot 10^{-3}$	$15.78 \cdot 10^{-6}$
1 foot (ft)	304.8	30.48	0.3048	12	1	0.3333	$189.4 \cdot 10^{-6}$
1 yard (yd)	914.4	91.44	0.9144	36	3	1	$568.2 \cdot 10^{-6}$
1 mile, statute (miles)	$1.609 \cdot 10^6$	$160.9 \cdot 10^3$	$1.609 \cdot 10^3$	$63.36 \cdot 10^3$	$5.28 \cdot 10^3$	$1.76 \cdot 10^3$	1

Volume

V	mm ³	cm ³	l	m ³	in ³	ft ³	yd ³	UK Gal.	US Gal.
1 cubic millimetre (mm ³)	1	10 ⁻³	10 ⁻⁶	10 ⁻⁹	$61.02 \cdot 10^{-6}$	$35.32 \cdot 10^{-9}$	$1.308 \cdot 10^{-9}$	$0.22 \cdot 10^{-6}$	$0.264 \cdot 10^{-6}$
1 cubic centimetre (cm ³) (ml)	10 ³	1	10 ⁻³	10 ⁻⁶	$61.02 \cdot 10^{-3}$	$35.32 \cdot 10^{-6}$	$1.308 \cdot 10^{-6}$	$0.22 \cdot 10^{-3}$	$0.264 \cdot 10^{-3}$
1 litre (l) (dm ³)	10 ⁶	10 ³	1	10 ⁻³	61.02	$35.32 \cdot 10^{-3}$	$1.308 \cdot 10^{-3}$	0.22	0.2642
1 cubic metre (m ³)	10 ⁹	10 ⁶	10 ³	1	$61.02 \cdot 10^3$	35.315	1.308	219.969	264.172
1 cubic inch (in ³)	$16.387 \cdot 10^3$	16.387	$16.39 \cdot 10^{-3}$	$16.39 \cdot 10^{-6}$	1	$0.58 \cdot 10^{-3}$	$21.43 \cdot 10^{-6}$	$3.605 \cdot 10^{-3}$	$4.329 \cdot 10^{-3}$
1 cubic foot (ft ³)	$28.317 \cdot 10^6$	$28.317 \cdot 10^3$	28.317	$28.317 \cdot 10^{-3}$	$1.728 \cdot 10^3$	1	$37.04 \cdot 10^{-3}$	6.2288	7.4805
1 cubic yard (yd ³)	$764.6 \cdot 10^6$	$764.6 \cdot 10^3$	764.6	0.7646	$46.660 \cdot 10^3$	27	1	168.2	202
1 UK gallon (UK Gal.)	$4.546 \cdot 10^6$	$4.546 \cdot 10^3$	4.546	$4.546 \cdot 10^{-3}$	277.419	0.1605	$5.945 \cdot 10^{-3}$	1	1.201
1 US gallon (US Gal.)	$3.785 \cdot 10^6$	$3.785 \cdot 10^3$	3.785	$3.785 \cdot 10^{-3}$	231	0.1337	$4.95 \cdot 10^{-3}$	0.8327	1