

# General Conversation Tables

## Length

SI UNIT - meter (m)		
To convert from:	To:	Multiply by:
Mile	m	1609.344
Nautical Mile	m	1853
km	m	10 <sup>3</sup>
cm	m	10 <sup>-2</sup>
mm	m	10 <sup>-3</sup>
yd	m	0.914
ft	m	0.305
in	m	2.54 x 10 <sup>-2</sup>
mil	m	2.54 x 10 <sup>-5</sup>

## Area

SI UNIT - square meter (m <sup>2</sup> )		
To convert from:	To:	Multiply by:
Square Miles	m <sup>2</sup>	2.59 x 10 <sup>6</sup>
Acre	m <sup>2</sup>	4047
Hectare ha	m <sup>2</sup>	10 <sup>4</sup>
Km <sup>2</sup> (sq. km)	m <sup>2</sup>	10 <sup>6</sup>
cm <sup>2</sup>	m <sup>2</sup>	10 <sup>-4</sup>
mm <sup>2</sup>	m <sup>2</sup>	10 <sup>-6</sup>
yd <sup>2</sup>	m <sup>2</sup>	0.836
ft <sup>2</sup>	m <sup>2</sup>	9.29 x 10 <sup>-2</sup>
in <sup>2</sup>	m <sup>2</sup>	6.45 x 10 <sup>-4</sup>
mil <sup>2</sup>	m <sup>2</sup>	6.45 x 10 <sup>-10</sup>

## Volume

SI UNIT - cubic meter (m <sup>3</sup> )		
To convert from:	To:	Multiply by:
yd <sup>3</sup>	m <sup>3</sup>	0.765
ft <sup>3</sup>	m <sup>3</sup>	2.83 x 10 <sup>-2</sup>
in <sup>3</sup>	m <sup>3</sup>	1.64 x 10 <sup>-4</sup>
dm <sup>3</sup>	m <sup>3</sup>	10 <sup>-3</sup>
Litre	m <sup>3</sup>	10 <sup>-3</sup>
Gallon (Imperial)	m <sup>3</sup>	4.55 x 10 <sup>-3</sup>
Gallon (U.S.)	m <sup>3</sup>	3.79 x 10 <sup>-3</sup>
Pint (Imperial)	m <sup>3</sup>	5.68 x 10 <sup>-4</sup>
Pint (U.S.)	m <sup>3</sup>	4.73 x 10 <sup>-4</sup>

## Mass

SI UNIT - kilogram (kg)		
To convert from:	To:	Multiply by:
ton (Imperial)	kg	1016
ton (U.S.)	kg	907.2
tonne (metric)	kg	10 <sup>3</sup>
slug	kg	14.59
lb	kg	0.454
oz	kg	2.84 x 10 <sup>-2</sup>
g	kg	10 <sup>-3</sup>

## Force and Weight

SI UNIT - Newton (N)		
To convert from:	To:	Multiply by:
tonf (ton wt)	N	9964
lbf (lb wt)	N	4.448
poundal	N	0.138
ozf (oz wt)	N	0.278
kp	N	9.807
p	N	9.81 x 10 <sup>-2</sup>
kgf (kg wt)	N	9.807
gf (g wt)	N	9.81 x 10 <sup>-2</sup>
dyn	N	10 <sup>-5</sup>

## Pressure and Stress

SI UNIT - Pascal (Pa)		
To convert from:	To:	Multiply by:
at (technical atmosphere)	Pa	9.81 x 10 <sup>3</sup>
in WG	Pa	248.9
mm WG	Pa	10.34
in HG	Pa	3385
mm HG (torr)	Pa	131
kp cm <sup>-2</sup>	Pa	9.81 x 10 <sup>3</sup>
Nm <sup>-2</sup>	Pa	1
bar	Pa	10 <sup>5</sup>
lbf ft <sup>-2</sup>	Pa	47.88
lbf in <sup>-2</sup>	Pa	6895
kgf m <sup>-2</sup>	Pa	9.807
kgf cm <sup>-2</sup>	Pa	9.81 x 10 <sup>4</sup>

### Velocity (Linear)

SI UNIT - meter per second (ms <sup>-1</sup> )		
To convert from:	To:	Multiply by:
mph (mile per hour)	ms <sup>-1</sup>	0.447
ft min <sup>-1</sup>	ms <sup>-1</sup>	5.08 x 10 <sup>-3</sup>
fts <sup>-1</sup>	ms <sup>-1</sup>	0.305
km h <sup>-1</sup>	ms <sup>-1</sup>	0.278
m min <sup>-1</sup>	ms <sup>-1</sup>	1.67 x 10 <sup>-2</sup>
knot	ms <sup>-1</sup>	0.515

### Velocity (Angular)

SI UNIT - radians per second (rad s <sup>-1</sup> )		
To convert from:	To:	Multiply by:
rpm (revolutions per min)	rads <sup>-1</sup>	0.1037 (2π/60)
rs <sup>-1</sup> (revolutions per sec)	rads <sup>-1</sup>	6.283 (2π)
°s <sup>-1</sup> (degrees per sec)	rads <sup>-1</sup>	1.75 x 10 <sup>-2</sup> (2π/360)

### Torque

SI UNIT - Newton meter (Nm)		
To convert from:	To:	Multiply by:
lbf ft	Nm	1.356
lbf in	Nm	0.113
ozf in	Nm	7.062 x 10 <sup>-3</sup>
kgf m	Nm	9.807
kp m	Nm	9.807

### Energy

SI UNIT - Joule (J)		
To convert from:	To:	Multiply by:
Btu	J	1.055 x 10 <sup>3</sup>
therm (10 <sup>5</sup> btu)	J	1.055 x 10 <sup>8</sup>
cal	J	4.187
ft lbf (ft lb wt)	J	1.356
ft poundal	J	0.042

### Power

SI UNIT - kilowatt (kW)		
To convert from:	To:	Multiply by:
hp	kW	0.746
ps	kW	0.736
ch, CV	kW	0.736
Btu s <sup>-1</sup>	kW	1.055
kcal s <sup>-1</sup>	kW	4.187
ft lbf s <sup>-1</sup>	kW	1.36 x 10 <sup>-3</sup>

### Force

SI UNIT - Newton (N)		
To convert from:	To:	Multiply by:
lb(f)	N	4.448
N	lb(f)	0.225

### Moment of Inertia

SI UNIT - Kilogram meter <sup>2</sup> (kgm <sup>2</sup> )		
To convert from:	To:	Multiply by:
lb in s <sup>2</sup>	kgm <sup>2</sup>	0.113
oz in s <sup>2</sup>	kgm <sup>2</sup>	7.06155 x 10 <sup>-2</sup>
kg m <sup>2</sup>	lb in s <sup>2</sup>	8.85075
kg m <sup>2</sup>	oz in s <sup>2</sup>	141.612
kg cm <sup>2</sup>	kgm <sup>2</sup>	10 <sup>-4</sup>
kgf m <sup>2</sup> (GD <sup>2</sup> )	kgm <sup>2</sup>	0.25
lbf ft <sup>2</sup> (WK <sup>2</sup> )	kgm <sup>2</sup>	4.21 x 10 <sup>-2</sup>
kp m s <sup>2</sup>	kgm <sup>2</sup>	9.807
ft lbf s <sup>2</sup>	kgm <sup>2</sup>	1.356
lbf in <sup>2</sup>	kgm <sup>2</sup>	2.926 x 10 <sup>-4</sup>
ozf in <sup>2</sup>	kgm <sup>2</sup>	1.829 x 10 <sup>-5</sup>

### Temperature

SI UNIT - Kelvin (K)		
To convert from:	To:	Multiply by:
°C	K	x 1
t°C	K	t+273.15
°F	K	x 0.5555
t°F	K	(t-32) x 0.5555

### Flow

SI UNIT - cubic meter per second (m <sup>3</sup> s <sup>-1</sup> )		
To convert from:	To:	Multiply by:
gallon per hour (Imp)	m <sup>3</sup> s <sup>-1</sup>	1.26x10 <sup>-6</sup>
gallon per hour (US)	m <sup>3</sup> s <sup>-1</sup>	1.05x10 <sup>-6</sup>
litre per hour	m <sup>3</sup> s <sup>-1</sup>	1.67x10 <sup>-5</sup>
litre per second	m <sup>3</sup> s <sup>-1</sup>	10 <sup>-3</sup>
cfm	m <sup>3</sup> s <sup>-1</sup>	4.72x10 <sup>-4</sup>
m <sup>3</sup> h <sup>-1</sup>	m <sup>3</sup> s <sup>-1</sup>	2.78x10 <sup>-4</sup>
m <sup>3</sup> min <sup>-1</sup>	m <sup>3</sup> s <sup>-1</sup>	1.67x10 <sup>-2</sup>

### Torque

SI UNIT - Newton meter (Nm)		
To convert from:	To:	Multiply by:
lb ft	Nm	1.356
lb in	Nm	0.113
oz in	Nm	7.062 x 10 <sup>-3</sup>
Nm	lb ft	0.738
Nm	lb ft	8.857
Nm	oz in	141.6

### Linear Acceleration

SI UNIT - meter per second <sup>2</sup> (ms <sup>-2</sup> )		
To convert from:	To:	Multiply by:
ins <sup>2</sup>	ms <sup>-2</sup>	2.54 x 10 <sup>-2</sup>
fts <sup>2</sup>	ms <sup>-2</sup>	0.305
ms <sup>-2</sup>	ins <sup>2</sup>	39.37
ms <sup>-2</sup>	fts <sup>2</sup>	3.281