

# English Metric System Equivalents



## Length Equivalents

Unit	Millimeters	Centimeters	Inches	Feet	Yards	Meters
1 MILLIMETER =	1	.1	.03937	.003281	.001094	.001
1 CENTIMETER =	10	1	.3937	.032808	.010936	.01
1 INCH =	25.4001	2.54001	1	.083333	.027778	.025400
1 FOOT =	304.801	30.4801	12	1	.333333	.304801
1 YARD =	914.402	91.4402	36	3	1	.914402
1 METER =	1000	100	39.37	3.28083	1.09361	1
Unit	Feet	Yards	Meters	Rods	Furlongs	Miles (Statute)
1 ROD =	16.5	5.5	5.02921	1	.025 (1/40)	.003125 (1/320)
1 FURLONG =	660	220	201.168	40	1	.125 (1/8)
1 KILOMETER =	3280.8	1093.6	1000	199	4.971	.62137
1 MILE (STATUTE) =	5280	1760	1609.35	320	8	1

1 NAUTICAL MILE = 6080.2 FEET = 1.15155 STATUTE MILES = 1/2 LEAGUE.  
1 LIGHT YEAR = 5.879 TRILLION MILES = 9.46 TRILLION KILOMETERS.

## Weight Equivalents

Unit	Grains	Grams	Ounces (Troy)	Ounces (Avoir.)	Pounds (Troy)	Pounds (Avoir.)	Kilograms
1 GRAIN =	1	.064799	.002083	.002286	.000174	.000143	.000065
1 GRAM =	15.4324	1	.032151	.035274	.002679	.002205	.001
1 OUNCE (TROY) =	480	31.1035	1	1.09714	.083333	.068571	.031104
1 OUNCE (AVOIR.) =	437.5	28.3495	.911458	1	.075955	.0625	.028350
1 POUND (TROY) =	5760	373.242	12	13.1657	1	.822857	.373242
1 POUND (AVOIR.) =	7000	453.592	14.5833	16	1.21528	1	.453592
1 KILOGRAM =	15432.4	1000	32.1507	35.2740	2.67923	2.20462	1
Unit	Kilograms	Pounds (Troy)	Pounds (Avoir.)	Metric Tons	Net (Short) Tons	Gross (Long) Tons	
1 METRIC TON =	1000	2679.23	2204.62	1	1.10231	.984206	
1 NET (SHORT) TON =	907.185	2430.56	2000	.907185	1	.892857	
1 GROSS (LONG) TON =	1016.05	2722.22	2240	1.01605	1.12	1	

## Volume and Capacity Equivalents

Unit	Cubic Centimeters	Cubic Inches	Liters	Quarts (Liquid)	Quarts (Dry)	Gallons (Liquid)	Gallons (Dry)	Cubic Feet
1 CU. CENTIMETER =	1	.06102	.001	.00106	.00091	.00026	.00023	.00004
1 CU. INCH =	16.387	1	.01639	.01732	.01488	.00433	.00372	.00058
1 GILL =	118.29	7.2188	.11829	.125	.10742	.03125	.02686	.00418
1 PINT (LIQUID) =	473.18	28.875	.47318	.5	.42968	.125	.10742	.01671
1 PINT (DRY) =	550.62	33.600	.55062	.58182	.5	.14546	.125	.01945
1 LITER =	1000	61.023	1	1.0567	.90808	.26417	.22702	.03531
1 QUART (LIQUID) =	946.36	57.75	.94636	1	.85937	.25	.21484	.03342
1 QUART (DRY) =	1101.2	67.201	1.1012	1.1637	1	.29091	.25	.03889
1 GALLON (LIQUID) =	3785.4	231	3.7854	4	3.4375	1	.85937	.13368
1 GALLON (DRY) =	4404.9	268.80	4.4049	4.6546	4	1.1636	1	.15556
1 PECK =	8809.8	537.61	8.8098	9.3092	8	2.3273	2	.31111
1 CU. FOOT =	28317.0	1728	28.317	29.922	25.714	7.4805	6.4285	1
1 BUSHEL =	35239.3	2150.4	35.239	37.237	32	9.3092	8	1.2445
1 BARREL =	119241.2	7276.5	119.24	126	108.28	31.5	27.070	4.2109
1 CU. YARD =	764559.4	46656	764.56	807.90	694.28	201.97	173.57	27
1 CU. METER =	1000000	61023.4	1000	1056.7	908.08	264.17	227.02	35.314



# English Metric System Equivalents

## Area Equivalents

Unit	Square Inches	Square Feet	Square Yards	Square Meters
1 SQUARE FOOT =	144	1	.1111	.09290
1 SQUARE YARD =	1296	9	1	.83613
1 SQUARE METER =	1550	10.7639	1.19599	1
1 SQUARE ROD =	39204	272.25	30.25	25.293
1 ARE =	155000	1076.39	119.599	100
1 ACRE =	6272640	43560	4840	4046.86
1 SQUARE MILE (640 ACRES) =	-	27878400	3097600	2589999
1 SQUARE KILOMETER =	-	10763867	1195985	1000000

## Power Equivalents

Unit	BTU/Hour	Foot-Pound/Hour	Foot-Pound/Minute	HP	HP (Metric)	Watt	Kilowatt
1 BTU/HR. =	1	778.1688	12.96948	.000393	.000398	.293071	.000293
1 FT.LB./HR. =	.001285	1	-	5.05x10 <sup>-7</sup>	5.12x10 <sup>-7</sup>	.0003766	3.766x10 <sup>-7</sup>
1 FT.LB./MIN. =	.077104	-	1	3.0303x10 <sup>-6</sup>	3.072x10 <sup>-7</sup>	.022597	2.26x10 <sup>-6</sup>
1 HP =	2544.43	1980000	33000	1	1.01387	745.699	.7457
1 HP MET. =	2509.622	1952914	32548.56	.986320	1	735.499	.735499
1 WATT =	3.41214	2655.224	44.2537	.0013410	.0013596	1	.001

NOTE: Foot-Pounds indicates energy.  
 Pound-Feet indicates torque (Page L-2).

## Metric System

### Length

- 1 meter (m) = { 10 decimeters(dm)  
100 centimeters(cm)  
1,000 millimeters(mm)
- 1 dekameter (dkm) = 10 meters (m)
- 1 hectometer (hm) = 100 meters (m)
- 1 kilometer (km) = 1,000 meters (m)

### Weight

- 1 gram (g) = { 10 decigrams (dg)  
100 centigrams (cg)  
1,000 milligrams (mg)
- 1 dekagram (dkg) = 10 grams (g)
- 1 hectogram (hg) = 100 grams (g)
- 1 kilogram (kg) = 1000 grams (g)
- 1 metric ton = { 1000 kilograms (kg)  
1,000,000 grams (g)

### Volume & Capacity

- 1 liter (l) = { 1 cubic decimeter(dm<sup>3</sup>)  
10 deciliters (dl)  
100 centiliters(cl)  
1,000 milliliters (ml)  
1,000 cubic centimeters (cm<sup>3</sup> or cc)
- 1 dekaliter (dkl) = 10 liters (l)
- 1 hectoliter (hl) = 100 liters (l)
- 1 kiloliter (kl) = { 1 cubic meter (m<sup>3</sup>)  
1 stere (s)  
1,000 liters (l)

### Area

- 1 centare (ca) = { 1 square meter (m<sup>2</sup>)  
100 square decimeters (dm<sup>2</sup>)  
10,000 square centimeters (cm<sup>2</sup>)  
1,000,000 square millimeters (mm<sup>2</sup>)
- 1 are (a) = { 1 square dekameter (dkm<sup>2</sup>)  
100 square meters (m<sup>2</sup>)
- 1 hectare (ha) = { 100 ares (a)  
10,000 square meters (m<sup>2</sup>)
- 1 square kilometer (km<sup>2</sup>) = 1,000,000 square meters (m<sup>2</sup>)

### Other prefixes commonly used:

- micro — one millionth
- deca — 10 times (same as deka)
- myria — 10,000 times
- mega — 1,000,000 times