

# Helpful Weights, Measures and Conversion Factors

## Linear Measure

<b>1 Inch</b>	= .0833 foot = 2.54 centimeters
<b>1 Foot</b>	= 12 in. = 30.48 centimeters = .3048 meters
<b>1 Yard</b>	= 3 feet = 91.44 centimeters = 36 in. = .9144 meters
<b>1 Rod</b>	= 16.5 feet = 5.5 yards = 5.0292 meters = 25 links
<b>1 Link</b>	= 7.92 in. = .66 foot = .04 rod
<b>1 Chain</b>	= 66 feet = 4 rods = 22 yards = 100 links
<b>1 Station</b>	= 6.06 rods = 33.3 yards = 100 feet
<b>1 Furlong</b>	= 40 rods = 220 yards = 10 chains = .125 mile
<b>1 Mile</b>	= 5,280 feet = 1,760 yards = 8 furlongs = 1.6 kilometers
<b>1 Hand</b>	= 4 in. = .333 foot = 10.16 centimeters
<b>1 Span</b>	= 9 in. = .75 foot = 22.86 centimeters
<b>1 Fathom</b>	= 6 feet = 2 yards = 1.83 meters
<b>1 Vara</b>	= 33 in. (CA) = 33.33 in. (TX) = 32.9931 in. (Mexico)
<b>1 League</b>	= 3 miles = 4.8 kilometers
<b>1 Cable Length</b>	= 120 fathoms = 720 feet = 240 yards
<b>1 Nautical Mile</b>	= 6,080.2 feet = 2026.73 yards = 1.15 statute mile
<b>1 Millimeter</b>	= .001 meter = .03937 in. = .3937 in. = .0328 foot = .01 meter
<b>1 Centimeter</b>	= 10 millimeters
<b>1 Meter</b>	= 100 centimeters = 3.28084 feet = 39.37 inches = 1.0936 yard
<b>1 Kilometer</b>	= 1,000 meters = .62137 statute mile = 3 280.84 feet

## Square Measure

<b>1 Square Inch</b>	= 6.4516 square centimeters = .00695 square foot
<b>1 Square Foot</b>	= 144 square inches = 929 square centimeters
<b>1 Square Yard</b>	= 9 square feet = .8361 square meter
<b>1 Square Rod</b>	= 30.25 square yards = 272.25 square feet
<b>1 Acre</b>	= 43,560 square feet = 4,840 square yards = 10 square chains
<b>1 Acre</b>	= .4046 hectare = 160 square rods = 5,646.5 square varas (TX)

**Liquids:** U.S. gallons x .8333 = Imperial gallon  
 Quarts x .946 = liters  
 Liters x .2642 = gallons  
 Gallons x 3.785 = liters  
 Imperial Gallons x 1.2009 = U.S. gallons  
 Liters x 1.057 = quarts

<b>1 Hectare</b>	= 2.47 acres = 10,000 square meters = 107,639 square feet
<b>1 Square Mile</b>	= 640 acres = 1 section = 2.5899 square kilometers
<b>1 Township</b>	= 36 square miles = 23,040 acres
<b>1 Square Vara</b>	= 7.71 square feet = .8566 square yard
<b>1 Rood</b>	= 40 square rods = 1,210 square yards = 10,890 square feet
<b>1 Square Centimeter</b>	= .155 square in.
<b>1 Square Meter</b>	= 1.196 square yards = 10.7639 square feet
<b>1 Square Kilometer</b>	= 247.104 acres = .3861 square mile
<b>1 Lode Claim (std)</b>	= 20.661 acres = 600 x 1,500 feet (900,000 sq. ft.)
<b>1 Placer Claim (std)</b>	= 20 acres = 871,200 square feet (96,800 sq. yd.)

## Cubic Measure

<b>1 Cubic Inch</b>	= 16,387 cubic centimeters
<b>1 Cubic Foot</b>	= 1,728 cubic in. = .037 cubic yard = 7.48 gallons
<b>1 Cubic Yard</b>	= 27 cubic feet = .7645 cubic meter = 201.96 gallons
<b>1 Cubic Meter</b>	= 35.315 cubic feet = 1.3 cubic yards = 264.17 gal- lons
<b>1 Bushel</b>	= 1.244 cubic feet = .035 cubic meter = 35.238 liters
<b>1 Liter</b>	= .264 U.S. gallon = .0353 cubic foot = 1.0567 U.S. quarts
<b>1 U.S. Gallon</b>	= 8 pints = 4 quarts = 3.7852 liters = 231 cubic in.
<b>1 U.S. Quart</b>	= 1.1 liters (dry) = .9463 liters (liquid)
<b>1 U.S. Gallon</b>	= .83267 imperial gallon = .00378 cubic meter
<b>1 Imperial Gallon</b>	= 1.201 U.S. gallons = 4.546 liters 1 Barrel (oil) = 42 U.S. gallons
<b>1 Cord (wood)</b>	= 128 cubic feet = 4 x 4 x 8 feet
<b>1 Ton (shipping)</b>	= 40 cubic feet

Cu. meters x 35.3145 = cu. feet  
 Cu. feet x .0283 = cu. meters  
 Cu. meters x 1.308 = cu. yards  
 Cu. centimeters x .06102 = cu. inches

**Weights:**  
 Pounds x .453 = kilograms  
 Kilograms x 2.2046 = pounds

### Dry Measure

1 Quart	= 2 pints
1 Bushel	= 4 pecks = 32 quarts
	= 2,150.4 cubic in.
1 Peck	= 8 quarts

### Liquid Measure

1 Pint	= 4 gills
1 Gallon	= 4 quarts
1 Quart	= 2 pints
1 Barrel	= 31.5 gallons

### Avoirdupois Weight (U.S.)

1 Dram	= 27.34375 grains
1 Ounce	= 16 drams = 437.5 grains
1 Pound	= 16 ounces = 7,000 grains
1 Quarter	= 25 pounds
1 Cwt.	= 4 quarters
1 Short Ton	= 2,000 pounds
1 Long Ton	= 2,240 pounds

### Troy Weight

1 Troy Ounce	= 480 grains = 20 pennyweight = 31.1035 grams
1 Troy Pound	= 12 troy ounces = 5,760 grains = .823 pounds avoird.
1 Pennyweight	= 24 grains = 1.555 grams

### Carat Weight

*\*Note: The carat is a unit of weight used for precious stones.*

1 Metric Carat	= 200 milligrams = 3.086 grains = .2 gram
----------------	---

### Karat Measure

*\*Note: The karat is a unit of fineness used for precious metals.*

24 Karat	= 1000 fine = pure metal = 100%
18 Karat	= 750 fine = 75%
14 Karat	= 583 fine = 58.33%

### Metric Weights & Equivalent

1 Gram	= .03527 ounce = 15,432 grains
1 Kilogram	= 2.2046 pounds = 32.1507 troy oz.
1 Metric Ton	= 2,204 pounds = 1,000 kilograms = 1.102 short tons = 32,150.7 troy oz.
1 Ounce	= 28.35 grams = 437.5 grains
1 Pound	= .4536 kilograms
1 Short Ton	= 2,000 pounds = 907 kilograms = .90744 metric ton
1 Grain	= .06479891 gram
1 Gram	= .03527 oz. (av.) = 15,432 grains = .03215 troy oz.

### Water Measure

1 Gallon	= 231 cubic inches = .1337 cubic feet = 8.33 pounds
1 Cubic Foot	= 7.48 gallons = 1,728 cubic inches = 62.4 pounds
1 Million Gallons	= 3.0689 acre feet
1 Acre Foot	= 43,560 cubic feet = 325,850 gallons = 12 acre inches (amount of water covering one acre one foot deep)
1 Gallon Per Minute	= .00223 cu. ft./sec. = 1,440 gallons per day
1 Cubic Foot Per Second	= 7.48 gallons per second = 448.8 gallons per minute = 646,272 gallons per day = .992 acre inch per hour = 1.983 acre feet per day
1 Miner's Inch	= 11.25 gals. per minute at 1/40 second-foot = 9.0 gals. per minute at 1/50 second-foot
Miner's Inch-Day	= 16,200 gallons at 1/40 second-foot = 12,960 gallons at 1/50 second-foot

### Temperature Conversion

Fahrenheit to Centigrade:	$(212 - 32)/1.8 = 100$
Centigrade to Fahrenheit:	$(100 \times 1.8) + 32 = 212$

### Conversion Factors

#### Linear:

Miles x 1.6093	= Kilometers
Kilometers x 1093.6	= Yards
Yards x .9144	= Meters
Kilometers x .621	= Miles
Kilometers x 3280.9	= Feet
Meters x 1.094	= Yards
Meters x 3.281	= Feet
Feet x .3048	= Meters
Inches x 2.54	= Centimeters
Inches x 25.4	= Millimeters
Meters x 39.37	= Inches
Feet x 30.48	= Centimeters
Centimeters x .3937	= Inches
Millimeters x .03937	= Inches

#### Area:

Sq. Mile x 2.59	= sq. kilometers
Acres x .4047	= Hectares
Sq. feet x .0929	= sq. meters
Sq. Inches x 645.2	= sq. millimeters
Sq. Kilometers x 247.11	= acres
Sq. Meters x 1.196	= sq. yards
Sq. Centimeters x .155	= sq. inches
Acres x .00405	= sq. kilometers
Sq. Yards x .8361	= sq. meters
Sq. Inches x 6.452	= sq. centimeters
Sq. Kilometers x .3861	= sq. miles
Hectares x 2.471	= acres
Sq. Meters x 10.764	= sq. feet
Sq. Millimeters x .00155	= sq. inches

#### Volume:

Cu. yards x .765	= cu. meters
Cu. inches x 16.383	= cu. centimeters