

U.S. Weights and Measures

Linear Measure

12 inches (in.) =	1 foot (ft.)
3 feet =	1 yard (yd)
$5\frac{1}{2}$ yards =	1 rod (rd), pole, or perch ($16\frac{1}{2}$ ft.)
40 rods =	1 furlong (fur) = 220 yds = 660 ft.
8 furlongs =	1 statute mile (mi.) = 1,760 yds = 5,280 ft.
3 land miles =	1 league
5,280 feet =	1 statute or land mile
6,076.11549 feet =	1 international nautical mile

Area Measure

144 square inches =	1 sq ft.
9 square feet =	1 sq yd = 1,296 sq in.
$30\frac{1}{4}$ square yards =	1 sq rd = $272\frac{1}{4}$ sq ft.
160 square rods =	1 acre = 4,840 sq yds = 43,560 sq ft.
640 acres =	1 sq mi.
1 mile square =	1 section (of land)
6 miles square =	1 township = 36 sections = 36 sq mi.

Cubic Measure

1,728 cubic inches =	1 cu ft.
27 cubic feet =	1 cu yd

Liquid Measure

When necessary to distinguish the liquid pint or quart from the dry pint or quart, the word “liquid” or the abbreviation “liq” should be used in combination with the name or abbreviation of the liquid unit.

4 gills (gi) =	1 pint (pt) (= 28.875 cu in.)
2 pints =	1 quart (qt) (= 57.75 cu in.)
4 quarts =	1 gallon (gal) (= 231 cu in.) = 8 pts = 32 gills

Apothecaries' Fluid Measure

60 minims (min.) =	1 fluid dram (fl dr) (= 0.2256 cu in.)
8 fluid drams =	1 fluid ounce (fl oz) (= 1.8047 cu in.)
16 fluid ounces =	1 pt (= 28.875 cu in.) = 128 fl drs
2 pints =	1 qt (= 57.75 cu in.) = 32 fl oz = 256 fl drs
4 quarts =	1 gal (= 231 cu in.) = 128 fl oz = 1,024 fl drs

Avoirdupois Weight

When necessary to distinguish the avoirdupois dram from the apothecaries' dram, or to distinguish the avoirdupois dram or ounce from the fluid dram or ounce, or to distinguish the avoirdupois ounce or pound from the troy or apothecaries' ounce or pound, the word “avoirdupois” or the abbreviation “avdp” should be used in combination with the name or abbreviation of the avoirdupois unit. (The “grain” is the same in avoirdupois, troy, and apothecaries' weights.)

$27^{11}/32$ grains =	1 dram (dr)
16 drams =	1 oz = $437^{1}/2$ grains
16 ounces =	1 lb = 256 drams = 7,000 grains
100 pounds =	1 hundredweight (cwt) ¹
20 hundredweights =	1 ton (tn) = 2,000 lbs ¹
In “gross” or “long” measure, the following values are recognized:	
112 pounds =	1 gross or long cwt ¹

20 gross or long hundredweights = 1 gross or long ton	
	= 2,240 lbs ¹

1. When the terms "hundredweight" and "ton" are used unmodified, they are commonly understood to mean the 100-pound hundredweight and the 2,000-pound ton, respectively; these units may be designated "net" or "short" when necessary to distinguish them from the corresponding units in gross or long measure.

Dry Measure

When necessary to distinguish the dry pint or quart from the liquid pint or quart, the word "dry" should be used in combination with the name or abbreviation of the dry unit.

2 pints =	1 qt (= 67.2006 cu in.)
8 quarts =	1 peck (pk) (= 537.605 cu in.) = 16 pts
4 pecks =	1 bushel (bu) (= 2,150.42 cu in.) = 32 qts

Apothecaries' Weight

20 grains =	1 scruple (s ap)
3 scruples =	1 dram apothecaries' (dr ap) = 60 grains
8 drams apothecaries' =	1 ounce apothecaries' (oz ap) = 24 scruples = 480 grains
12 ounces apothecaries' =	1 pound apothecaries' (lb ap) = 96 drams apothecaries' = 288 scruples = 5,760 grains

Units of Circular Measure

Second (") =	—
Minute (')	60 seconds
Degree (°) =	60 minutes
Right angle =	90 degrees
Straight angle =	180 degrees
Circle =	360 degrees

Troy Weight

24 grains =	1 pennyweight (dwt)
20 pennyweights =	1 ounce troy (oz t) = 480 grains
12 ounces troy =	1 pound troy (lb t) = 240 pennyweights = 5,760 grains

Gunter's or Surveyor's Chain Measure

7.92 inches =	1 link (li)
100 links =	1 chain (ch) = 4 rods = 66 ft.
80 chains =	1 statute mile = 320 rods = 5,280 ft.