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Precision: Auto 2 3 4 5 6 7 8 9 10 12 14 16 18 20 decimal digitsConvert from Cubic feet to Cubic meters. Type in the amount you want to convert and press the Convert button (↻). Belongs in category Volume To other units Conversion table For your website 1 Cubic feet = 0.0283 Cubic meters 10 Cubic feet = 0.2832 Cubic meters 2500 Cubic feet = 70.7921 Cubic meters 2 Cubic feet = 0.0566 Cubic meters 20 Cubic feet = 0.5663 Cubic meters 5000 Cubic feet = 141.58 Cubic meters 3 Cubic feet = 0.085 Cubic meters 30 Cubic feet = 0.8495 Cubic meters 10000 Cubic feet = 283.17 Cubic meters 4 Cubic feet = 0.1133 Cubic meters 40 Cubic feet = 1.1327 Cubic meters 25000 Cubic feet = 707.92 Cubic meters 5 Cubic feet = 0.1416 Cubic meters 50 Cubic feet = 1.4158 Cubic meters 50000 Cubic feet = 1415.84 Cubic meters 6 Cubic feet = 0.1699 Cubic meters 100 Cubic feet = 2.8317 Cubic meters 100000 Cubic feet = 2831.68 Cubic meters 7 Cubic feet = 0.1982 Cubic meters 250 Cubic feet = 7.0792 Cubic meters 250000 Cubic feet = 7079.21 Cubic meters 8 Cubic feet = 0.2265 Cubic meters 500 Cubic feet = 14.1584 Cubic meters 500000 Cubic feet = 14158.42 Cubic meters 9 Cubic feet = 0.2549 Cubic meters 1000 Cubic feet = 28.3168 Cubic meters 1000000 Cubic feet = 28316.84 Cubic meters Embed this unit converter in your page or blog, by copying the following HTML code: Your browser does not support iframes. convertlive.convertlive Add to phone An extensive collection of free, highly-rated online calculators and converters covering finance, construction, education, health, cooking and math for everyday use.Financial CalculatorsA suite of financial calculators to assist with projections for savings, investments, loans, mortgages and small business calculations.Featured ConversionsA series of individual converters for popular weight, length, height, area and energy units.HealthA small collection of health calculators, from BMI and BMR through to pregnancy and exercise.Handy and FunA collection of handy calculators for DIY construction projects as well as math calculators and a selection of tools for calculating dates.Cooking CalculatorsA suite of recipe calculators to help you with converting between metric and imperial units when baking or cooking.Unit ConversionsA series of unit converters for area, energy, fuel consumption, length & distance, volume, weight and more.Are the calculators on our site free to use?Yes, all the online calculators on The Calculator Site are free for you to use at your convenience. Our website is funded by the advertising we feature on our pages.We hope you find our calculators useful. You can learn more about The Calculator Site and the causes we support (tree planting) on our about page. Precision: Auto 2 3 4 5 6 7 8 9 10 12 14 16 18 20 decimal digitsConvert from Cubic feet to Cubic kilometers. Type in the amount you want to convert and press the Convert button (↻). Belongs in category Volume To other units Conversion table For your website 1 Cubic feet = 2.8×10-11 Cubic kilometers 10 Cubic feet = 2.83×10-10 Cubic kilometers 2500 Cubic feet = 7.0792×10-8 Cubic kilometers 2 Cubic feet = 5.7×10-11 Cubic kilometers 20 Cubic feet = 5.66×10-10 Cubic kilometers 5000 Cubic feet = 1.416×10-7 Cubic kilometers 3 Cubic feet = 8.5×10-11 Cubic kilometers 30 Cubic feet = 8.5×10-10 Cubic kilometers 10000 Cubic feet = 2.832×10-7 Cubic kilometers 4 Cubic feet = 1.13×10-10 Cubic kilometers 40 Cubic feet = 1.133×10-9 Cubic kilometers 25000 Cubic feet = 7.079×10-7 Cubic kilometers 5 Cubic feet = 1.42×10-10 Cubic kilometers 50 Cubic feet = 1.416×10-9 Cubic kilometers 50000 Cubic feet = 1.4158×10-6 Cubic kilometers 6 Cubic feet = 1.7×10-10 Cubic kilometers 100 Cubic feet = 2.832×10-9 Cubic kilometers 100000 Cubic feet = 2.8317×10-6 Cubic kilometers 7 Cubic feet = 1.98×10-10 Cubic kilometers 250 Cubic feet = 7.079×10-9 Cubic kilometers 250000 Cubic feet = 7.0792×10-6 Cubic kilometers 8 Cubic feet = 2.27×10-10 Cubic kilometers 500 Cubic feet = 1.4158×10-8 Cubic kilometers 500000 Cubic feet = 1.4×10-5 Cubic kilometers 9 Cubic feet = 2.55×10-10 Cubic kilometers 1000 Cubic feet = 2.8317×10-8 Cubic kilometers 1000000 Cubic feet = 2.8×10-5 Cubic kilometers Embed this unit converter in your page or blog, by copying the following HTML code: Your browser does not support iframes. convertlive.convertlive There are 35.3146667215 cubic feet in a cubic meter. 1 Cubic Meter is equal to 35.3146667215 Cubic Feet. 1 m^3 = 35.3146667215 ft^3 1 m^3 = 35.314667 ft^{30} m^3 = 0 ft^{3150} m^3 = 5297.200008 $ft^{32.5}$ m^3 = 88.286667 ft^{310} m^3 = 353.146667 ft^{315} m^3 = 529.720001 ft^{370} m^3 = 2472.026671 ft^{355} m^3 = 1942.30667 $ft^{36.8}$ m^3 = 240.139734 ft^{36} m^3 = 211.888 ft^{3200} m^3 = 7062.933344 ft^{3130} m^3 = 4590.906674 ft^{3100} m^3 = 3531.466672 ft^{36} m^3 = 1271.328002 ft^{30} m^3 = 1059.440002 ft^{50} m^3 = 1765.733336 $ft^{31.98}$ m^3 = 69.92304 $ft^{32.83}$ m^3 = 99.940507 $ft^{30.01}$ m^3 = 0.353147 $ft^{31.4834}$ m^3 = 52.385777 ft^{320} m^3 = 706.293334 ft^{230} m^3 = 8122.373346 ft^{316} m^3 = 565.034668 ft^{360} m^3 = 2118.880003 ft^{3120} m^3 = 4237.760007 $ft^{34778.19}$ m^3 = 168740.187382 ft^{31625} m^3 = 57386.333422 $ft^{325.92}$ m^3 = 915.356161 $ft^{3120.56678}$ m^3 = 4257.775653 ft^{356} m^3 = 1977.621336 ft^{335} m^3 = 1236.013335 ft^{332} m^3 = 1130.069335 ft^{328} m^3 = 988.810668 ft^{218} m^3 = 7698.597345 ft^{376} m^3 = 2683.914671 ft^{34} m^3 = 141.258667 ft^{3190} m^3 = 6709.786677 $ft^{31.54}$ m^3 = 54.384587 $ft^{345.425}$ m^3 = 1604.168736 $ft^{39.2}$ m^3 = 324.894934 ft^{360500} m^3 = 2136537.336651 $ft^{333.36}$ m^3 = 1178.097282 ft^{3124} m^3 = 4379.018673 ft^{375} m^3 = 2648.600004 $ft^{31.75}$ m^3 = 61.800667 ft^{314} m^3 = 494.405334 $ft^{30.3}$ m^3 = 10.5944 ft^{3250} m^3 = 8828.66668 ft^3 A base unit of measurement for volume, a cubic meter is representing the volume which is equal to the one of a cube with 1 meter at each side. This unit is very popular and very widely used around the world even in the countries like the UK, the US, and other ones which adopted the Imperial system. One cubic meter is equal to 1,000 liters, roughly 1.31 cubic yards, or roughly 35.3 cubic feet. Convert Cubic Meter A cubic foot (pl cubic feet) is a unit of measuring volume used by those countries who recognize the Imperial system and the US customary system (the US, the UK, a series of countries in African and the Pacific regions, etc.) A cubic foot is equal to the volume of a cube with each side of 0.3048 meter, or 1 foot. Thus, the volume represented by this unit is equal to approximately 1/35th of a cubic meter, or 28.3168 liters. Convert Cubic Feet This is a very easy to use cubic meter to cubic feet converter. First of all just type the cubic meter (m^3) value in the text field of the conversion form to start converting m^3 to ft^3, then select the decimals value and finally hit convert button if auto calculation didn't work. Cubic Feet value will be converted automatically as you type. The decimals value is the number of digits to be calculated or rounded of the result of cubic meter to cubic feet conversion. You can also check the cubic meter to cubic feet conversion chart below, or go back to cubic meter to cubic feet converter to top. Cubic MeterCubic Feet1 $m^3$35.3146667215 ft^32 $m^3$70.629333443 ft^33 $m^3$105.9440001645 ft^34 $m^3$141.258666886 ft^35 $m^3$176.5733336075 ft^36 $m^3$211.888000329 ft^37 $m^3$247.2026670505 ft^38 $m^3$282.517333772 ft^39 $m^3$317.8320004935 ft^310 $m^3$353.146667215 ft^311 $m^3$388.4613339365 ft^312 $m^3$423.776000658 ft^313 $m^3$459.0906673795 ft^314 $m^3$494.405334101 ft^315 $m^3$529.7200008225 ft^316 $m^3$565.034667544 ft^317 $m^3$600.3493342655 ft^318 $m^3$635.664000987 ft^319 $m^3$670.9786677085 ft^320 $m^3$706.29333443 ft^321 $m^3$741.6080011515 ft^322 $m^3$776.922667873 ft^323 $m^3$812.2373345945 ft^324 $m^3$847.552001316 ft^325 $m^3$882.8666680375 ft^326 $m^3$918.181334759 ft^327 $m^3$953.4960014805 ft^328 $m^3$988.810668202 ft^329 $m^3$1024.1253349235 ft^330 $m^3$1059.440001645 ft^331 $m^3$1094.7546683665 ft^332 $m^3$1130.069335088 ft^333 $m^3$1165.3840018095 ft^334 $m^3$1200.698668531 ft^335 $m^3$1236.0133352525 ft^336 $m^3$1271.328001974 ft^337 $m^3$1306.6426686955 ft^338 $m^3$1341.957335417 ft^339 $m^3$1377.2720021385 ft^340 $m^3$1412.58666886 ft^341 $m^3$1447.9013355815 ft^342 $m^3$1483.216002303 ft^343 $m^3$1518.5306690245 ft^344 $m^3$1553.845335746 ft^345 $m^3$1589.1600024675 ft^346 $m^3$1624.474669189 ft^347 $m^3$1659.7893359105 ft^348 $m^3$1695.104002632 ft^349 $m^3$1730.4186693535 ft^350 $m^3$1765.733336075 ft^3 Cubic MeterCubic Feet50 $m^3$1765.733336075 ft^355 $m^3$1942.3066696825 ft^360 $m^32$118.88000329 ft^365 $m^32$295.4533368975 ft^370 $m^32$472.026670505 ft^375 $m^32$648.6000041125 ft^380 $m^32$825.17333772 ft^385 $m^33$001.7466713275 ft^390 $m^33$178.320004935 ft^395 $m^33$354.8933385425 ft^3100 $m^33$531.46667215 ft^3105 $m^33$708.0400057575 ft^3110 $m^33$884.613339365 ft^3115 $m^34$061.1866729725 ft^3120 $m^34$237.76000658 ft^3125 $m^34$414.3333401875 ft^3130 $m^34$590.906673795 ft^3135 $m^34$767.4800074025 ft^3140 $m^34$944.05334101 ft^3145 $m^35$120.6266746175 ft^3150 $m^35$297.200008225 ft^3155 $m^35$473.7733418325 ft^3160 $m^35$650.34667544 ft^3165 $m^35$826.9200090475 ft^3170 $m^36$003.493342655 ft^3175 $m^36$180.0666762625 ft^3180 $m^36$356.64000987 ft^3185 $m^36$533.2133434775 ft^3190 $m^36$709.786677085 ft^3195 $m^36$886.3600106925 ft^3200 $m^37$062.9333443 ft^3205 $m^37$239.5066779075 ft^3210 $m^37$416.080011515 ft^3215 $m^37$592.6533451225 ft^3220 $m^37$769.22667873 ft^3225 $m^37$945.8000123375 ft^3230 $m^38$122.373345945 ft^3235 $m^38$298.9466795525 ft^3240 $m^38$475.52001316 ft^3245 $m^38$652.0933467675 ft^3250 $m^38$828.666680375 ft^3255 $m^39$005.2400139825 ft^3260 $m^39$181.81334759 ft^3265 $m^39$358.3866811975 ft^3270 $m^39$534.960014805 ft^3275 $m^39$711.5333484125 ft^3280 $m^39$888.10668202 ft^3285 $m^310$064.680015627 ft^3290 $m^310$241.253349235 ft^3295 $m^310$417.826682842 ft^3 Back to all Volume conversions Units of measurement commonly used in the U.S. Not to be confused with Imperial units. Countries using the metric (SI), imperial, and US customary systems as of 2019 United States customary units form a system of measurement units commonly used in the United States and most U.S. territories[1] since being standardized and adopted in 1832.[2] The United States customary system developed from English units that were in use in the British Empire before the U.S. became an independent country. The United Kingdom's system of measures evolved by 1824 to create the imperial system (with imperial units), which was officially adopted in 1826, changing the definitions of some of its units. Consequently, while many U.S. units are essentially similar to their imperial counterparts, there are noticeable differences between the systems. The majority of U.S. customary units were redefined in terms of the meter and kilogram with the Mendenhall Order of 1893 and, in practice, for many years before.[3] These definitions were refined by the international yard and pound agreement of 1959.[4] The United States uses customary units in commercial activities, as well as for personal and social use. In science, medicine, many sectors of industry, and some government and military areas, metric units are used. The International System of Units (SI), the modern form of the metric system, is preferred for many uses by the U.S. National Institute of Standards and Technology (NIST).[5] For newer types of measurement where there is no traditional customary unit, international units are used, sometimes mixed with customary units: for example, electrical resistance of wire expressed in ohms (SI) per thousand feet. See also: Imperial and US customary measurement systems and Comparison of the imperial and US customary measurement systems The United States customary system of units of 1832 is based on the system in use in the United Kingdom prior to the introduction to the British imperial system on January 1, 1826.[6] Both systems are derived from English units, an older system of units which had evolved over the millennia before American independence, and which had its roots in both Roman and Anglo-Saxon units. The customary system was championed by the U.S.-based International Institute for Preserving and Perfecting Weights and Measures in the late 19th century. Some advocates of the customary system saw the French Revolutionary, or metric, system as atheistic. The president of an Ohio auxiliary of the Institute wrote that the traditional units were "a just weight and a just measure, which alone are acceptable to the Lord". His organization later went so far as to publish music for a song proclaiming "down with every 'metric' scheme".[7] The U.S. government passed the Metric Conversion Act of 1975, which made the metric system "the preferred system of weights and measures for U.S. trade and commerce". The legislation states that the federal government has a responsibility to assist industry as it voluntarily converts to the metric system, i.e., metrification. This is most evident in U.S. labeling requirements on food products, where SI units are almost always presented alongside customary units. According to the CIA World Factbook, the United States is one of three nations (along with Liberia and Myanmar (Burma)) that have not adopted the metric system as their official system of weights and measures.[8] Executive Order 12770, signed by President George H. W. Bush on July 25, 1991, citing the Metric Conversion Act, directed departments and agencies within the executive branch of the United States Government to "take all appropriate measures within their authority" to use the metric system "as the preferred system of weights and measures for United States trade and commerce" and authorized the Secretary of Commerce "to charter an Interagency Council on Metric Policy ('ICMP'), which will assist the Secretary in coordinating Federal Government-wide implementation of this order." Implementation has been limited. See Metrication in the United States. U.S. customary units are widely used on consumer products and in industrial manufacturing. Metric units are standard in the fields of science, medicine, and engineering, as well as many sectors of industry and government, including the military.[8] There are anecdotal objections to the use of metric units in carpentry and the building trades, on the basis that it is easier to remember an integer number of inches plus a fraction, rather than a measurement in millimeters,[9] or that foot-inch measurements are more suitable when distances are frequently divided into halves, thirds, and quarters, often in parallel. The metric system also lacks a parallel measurement to the foot.[10] The term "United States customary units" was used by the former United States National Bureau of Standards,[11] although "English units" is sometimes used in colloquial speech.[12] Tape measure with markings in inches, feet and centimeters For measuring length, the U.S. customary system uses the inch, foot, yard, and mile, which are the only four customary length measurements in everyday use. From 1893, the foot was legally defined as exactly 1200⁄3937 m (approximately 0.3048006 m).[13] Since July 1, 1959, the units of length have been defined on the basis of 1 yd = 0.9144 m, which makes the foot exactly 0.3048 m.[4] The U.S., the United Kingdom and other Commonwealth countries agreed on this definition per the International Yard and Pound Agreement of 1958. At the time of the agreement, the basic geodetic datum in North America was the North American Datum of 1927 (NAD27), which had been constructed by triangulation based on the definition of the foot in the Mendenhall Order of 1893, that is 1 ft = 1200⁄3937 m: this definition was retained for data derived from NAD27, but renamed the US survey foot to distinguish it from the international foot.[4] For most applications, the difference between the two definitions is insignificant – one international foot is exactly 0.999998 of a US survey foot, for a difference of about 1⁄8 in (3 mm) per mile – but it affects the definition of the State Plane Coordinate Systems (SPCSs), which can stretch over hundreds of miles.[14] The NAD27 was replaced in the 1980s by the North American Datum of 1983 (NAD83), which is defined in meters. The SPCSs were also updated, but the U.S. National Geodetic Survey left the decision of which (if any) definition of the foot to use to the individual states (and other jurisdictions). All SPCS 1983 systems are defined in meters, but forty jurisdictions also use the survey foot, six use the international foot, and ten do not specify which, if any, foot type should be used.[15] In 2019, the NIST, working with the National Geodetic Survey (NGS), National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA) and Department of Commerce (DOC), issued a Federal Register Notice (FRN) indicating the deprecation of the U.S. survey foot and U.S. survey mile units from December 31, 2022.[16] In the following tables in this and subsequent sections, the most common measures are shown in italics, and approximate values are shown in parentheses; values not in parentheses are exact. List of international units Unit Name Divisions SI equivalent 1 twip twip 1⁄20 p1⁄1440 in 127⁄7200 mm (17.638 µm) 1 mil thousandth of an inchmil 1⁄1000 in 25.4 µm 1 p point 1⁄72 in 127⁄360 mm (352.7 µm) 1 P pica 12 p 127⁄30 mm (4.23 mm) 1 in1 ″ inch 6 P 25.4 mm 1 ft1 ′ foot 12 in 0.3048 m[17] 1 yd yard 3 ft 0.9144 m 1 mi mile 5280 ft1760 yd 1.609344 km 1 le league 3 mi15840 ft 4.828032 km List of international nautical units[17] Unit Name Divisions SI equivalent 1 ftm fathom 2 yd6 ft 1143⁄625 m1.8288 m 1 cb cable 120 ftm1.091 tur 3429⁄15625 km0.219456 km 1 nmi1 NM nautical mile 1.151 mi8.439 cb 1852 m1.852 km Note that as announced by the National Institute of Standards and Technology, the US survey foot, and other units defined in terms of it, have been deprecated since 2023, "except for historic and legacy applications".[16][13][18] List of US Survey units Unit Name Divisions SI equivalent Before 2023 From 2023 1 li link 33⁄50 ft7.92 in 792⁄3937 m(0.20117 m) 0.201168 m 1 ft U.S. survey foot (deprecated since 2023) — 1200⁄3937 m[17](0.3048006 m) — 1 rd rod"pole""perch" 25 li16.5 ft 19,800⁄3937 m(5.029 m) 5.0292 m 1 ch chain 4 rd66 ft 79,200⁄3937 m20.117 m 20.1168 m 1 fur furlong 10 ch 792⁄3937 km(201.168 m) 201.168 m 1 mi U.S. survey mile 8 fur 6336⁄3937 km[17](1.609347 km) 1.609344 km (international mile) 1 lea league 3 mi 19,008⁄3937 km[19](4.828 km) 4.828032 km List of US units of area Unit Name Divisions SI equivalent Before 2023 From 2023 1 sq ft1 ft2 square foot 144 sq in (international) 0.0929034 m2 0.0929034 m2 1 sq yd1 yd2 square yard 9 sq ft 0.83612736 m2 0.83612736 m2 1 sq ch1 ch2 square chain 4,356 sq ft (survey)16 sq rod (404.6873 m2) 404.68564224 m2 1 acre acre 43,560 sq ft (survey)10 sq ch (4,046.873 m2) 4,046.8564224 m2 1 section section 640 acres1 sq mi (survey) (2.589998 km2) — 1 twp survey township 36 section4 sq lea (93.23993 km2) — The most widely used area unit with a name unrelated to any length unit is the acre. The National Institute of Standards and Technology formerly contended that customary area units are defined in terms of the square survey foot, not the square international foot, [17] but from 2023 it states that "although historically defined using the U.S. survey foot, the statute mile can be defined using either definition of the foot, as is the case for all other units listed in this table. However, use of definitions based on the U.S. survey foot should be avoided after December 31, 2022 except for historic and legacy applications."[18] A 23.7 US fl oz (700 mL) bottle displaying both U.S. and metric units List of US units of volume Unit Name Divisions SI equivalent 1 cu in1 in3 cubic inch — 16.387064 mL[20] 1 cu ft1 ft3 cubic foot 1,728 cu in 28.316846592 L 1 cu yd1 yd3 cubic yard 27 cu ft 764.554857984 L0.764554857984 m3 1 acre·ft acre-foot 43,560 cu ft(1,613.333 cu yd) 1.23348183754752 ML(1,233.482 m3) The cubic inch, cubic foot and cubic yard are commonly used for measuring volume. In addition, there is one group of units for measuring volumes of liquids (based on the wine gallon and subdivisions of the fluid ounce), and one for measuring volumes of dry material, each with their own names and sub-units. Although the units and their names are similar to the units in the imperial system, and many units are shared between the two systems as a whole; with respect to volume, however, this is quite the contrary. The independence of the U.S. from the British Empire decades prior to the reformation of units in 1824—most notably the gallon, its subdivisions, and (in mass) higher combinations above the pound—is the cause of the differences in values. As a non-participant in that reform, the U.S. retained the separate systems for measuring the volumes of liquids and dry material, whereas the imperial system had unified the units for both under a new imperial gallon. The U.S. uses the pre-1824 gallon (231 cubic inches, 3,790 cm3) and Winchester bushel (2,150.42 cubic inches, 35,239.1 cm3), as opposed to British 1824 definition of 1 imperial gallon (4.5 L; 1.2 US gal) = 10 lb (4.5 kg) of water and the bushel as 8 imperial gallons (36 L; 9.6 US gal). List of US units of volume for liquids Unit Name Divisions Metric equivalent 1 min minim (1 drop) of water(0.95 grain) of water 61.611519921875 µL 1 fl dr US fluid dram 60 min 3.6966911953125 mL 1 tsp teaspoon 80 min 4.92892159375 mL 1 tbsp tablespoon 3 tsp4 fl dr 14.78676478125 mL 1 fl oz1 US fl oz US fluid ounce 2 tbsp(1.0408 imp fl oz of water) 29.5735295625 mL 1 jig US shot 1.5 US fl oz3 tbsp 44.36029434375 mL 1 gi US gill 22⁄3 jig4 US fl oz 118.29411825 mL 1 c US cup 2 gi8 US fl oz 236.5882365 mL 1 pint1 US pt US pint (liquid) 2 c(16.65 imp fl oz of water) 0.473176473 L 1 qt1 US qt US quart (liquid) 2 US pt 0.946352946 L 1 pot US pottle (liquid) 2 US qt 1.892705892 L 1 gal1 US gal US gallon (liquid) 4 US qt231 cu in 3.785411784 L 1 bbl barrel (liquid) 31.5 US gal 119.240471196 L 1 bbl oil barrel 1 1⁄3 bbl (liquid)42 US gal 158.987294928 L 1 hogshead hogshead 2 bbl (liquid)1.5 bbl (oil)63 US gal8.421875 cu ft 238.480942392 L One US fluid ounce is 1⁄16 of a US pint, 1⁄32 of a US quart, and 1⁄128 of a US gallon. The teaspoon, tablespoon, and cup are defined in terms of a fluid ounce as 1⁄6, 1⁄2, and 8 fluid ounces respectively. The fluid ounce derives its name originally from being the volume of one ounce avoirdupois of water,[21] but in the US it is defined as 1⁄128 of a US gallon. Consequently, a fluid ounce of water weighs about 1.041 ounces avoirdupois. For nutritional labeling and medicine in the US, the teaspoon and tablespoon are defined as a metric teaspoon and tablespoon—precisely 5 mL and 15 mL respectively.[22] The saying, "a pint's a pound the world around", refers to 16 US fluid ounces of water weighing approximately (about 4% more than) one pound avoirdupois. An imperial pint of water weighs a pound and a quarter (20 oz). There are varying standards for barrel for some specific commodities, including 31 gallons for beer, 40 gallons for whiskey or kerosene, and 42 gallons for petroleum. The general standard for liquids is 31.5 gal or half a hogshead. The common 55-gallon size of drum for storing and transporting various products and wastes is sometimes confused with a barrel, though it is not a standard measure. In the U.S., single servings of beverages are usually measured in fluid ounces. Milk is usually sold in half-pints (8 fluid ounces), pints, quarts, half gallons, and gallons. Water volume for sinks, bathtubs, ponds, swimming pools, etc., is usually stated in gallons or cubic feet. Quantities of gases are usually given in cubic feet (at one atmosphere). Minims, drams, gill, and pottle are rarely used currently. The gill is often referred to as a "half-cup". The pottle is often referred to as a "half-gallon". List of US units of volume for dry goods[23] Unit Name Divisions Metric equivalent 1 pt pint (dry) 33.6003125 cu in 0.5506104713575 L 1 qt quart (dry) 2 pt 1.101220942715 L 1 gal gallon (dry) 4 qt 4.40488377086 L 1 pk peck 2 gal 8.80976754172 L 1 bu bushel 4 pk 35.23907016688 L 1 bbl barrel (dry) 7056 cu in26.25 gal(3.281 bu) (115.627123584 L) Dry volume is measured on a separate system, although many of the names remain the same. Small fruits and vegetables are often sold in dry pints and dry quarts. While the US dry gallon is no longer used, and is no longer included in the handbook that many states recognize as the authority on measurement law, it implicitly exists since the US dry measures of bushel, peck, quart and pint are still in use.[23] Pecks and bushels are sometimes used, particularly for grapes, apples and similar fruits in agricultural regions. Main articles: Pound (force) and Pound (mass) Conversions Type Unit Name Divisions SI equivalent Avoirdupois 1 gr grain 1⁄7000 lb 64.79891 mg 1 dr dram 27+11⁄32 gr(8.859 carats) 1.771845195 g 1 oz ounce 16 drams 28.349523125 g 1 lb pound 16 oz 453.59237 g 1 cwt1 US cwt US (short) hundredweight 100 lb 45.359237 kg 1 cwt1 long cwt long hundredweight 112 lb 50.80234544 kg 1 ton1 short ton short ton 20 US cwt2,000 lb 907.18474 kg 1 ton long ton 20 long cwt2,240 lb 1,016.0469088 kg Troy 1 gr grain 1⁄7000 lb1⁄5760 lbt 64.79891 mg 1 dwt pennyweight 24 gr(7.776 carats) 1.55517384 g 1 ozt troy ounce 20 dwt 31.1034768 g 1 lbt troy pound 12 ozt(13.16571429 oz) 373.2417216 g There have historically been five different English systems of mass: tower, apothecaries', troy, avoirdupois, and metric. Of these, the avoirdupois weight is the most common system used in the U.S., although Troy weight is still used to weigh precious metals. Apothecaries' weight—once used by pharmacies—has been largely replaced by metric measurements. Tower weight fell out of use in England (due to legal prohibition in 1527) centuries ago, and was never used in the U.S. The imperial system, which is still used for some measures in the United Kingdom and other countries, is based on avoirdupois, with variations from U.S. customary units larger than a pound. The pound avoirdupois, which forms the basis of the U.S. customary system of mass, is defined as exactly 453.59237 grams by agreement between the U.S., the United Kingdom, and other English-speaking countries in 1959. Other units of mass are defined in terms of it. The avoirdupois pound is legally defined as a measure of mass,[24] but the name pound is also applied to measures of force. For instance, in many contexts, the pound avoirdupois is used as a unit of mass, but in some contexts, the term "pound" is used to refer to "pound-force". The slug is another unit of mass derived from pound-force. Troy weight, avoirdupois weight, and apothecaries' weight are all built from the same basic unit, the grain, which is the same in all three systems. However, while each system has some overlap in the names of their units of measure (all have ounces and pounds), the relationship between the grain and these other units within each system varies. For example, in apothecary and troy weight, the pound and ounce are the same, but are different from the pound and ounce in avoirdupois in terms of their relationships to grains and to each other. The systems also have different units between the grain and ounce (apothecaries' has scruple and dram, troy has pennyweight, and avoirdupois has just dram, sometimes spelled drachm). The dram in avoirdupois weighs just under half of the dram in apothecaries'. The fluid dram unit of volume is based on the weight of 1 dram of water in the apothecaries' system. To alleviate confusion, it is typical when publishing non-avoirdupois weights to mention the name of the system along with the unit. Precious metals, for example, are often weighed in "troy ounces", because just "ounce" would be more likely to be assumed to mean an avoirdupois ounce. For the pound and smaller units, the U.S. customary system and the British imperial system are identical. However, they differ when dealing with units larger than the pound. The definition of the pound avoirdupois in the imperial system is identical to that in the U.S. customary system. In the U.S., only the ounce, pound and short ton – known in the country simply as the ton – are commonly used, though the hundredweight is still used in agriculture and shipping. The grain is used to describe the mass of propellant and projectiles in small arms ammunition. It was also used to measure medicine and other very small masses. In agricultural practice, a bushel is a fixed volume of 2,150.42 cubic inches (35.2391 liters). The mass of grain will therefore vary according to density. Some nominal weight examples are:[25][26] 1 bushel (corn) = 56 lb (25.4012 kg) 1 bushel (wheat) = 60 lb (27.2155 kg) 1 bushel (barley) = 48 lb (21.7724 kg) Main article: Cooking weights and measures Common volume measures in English-speaking countries(Comparable measures listed for comparison purposes.) Measure Australia Canada UK US US FDA[27] Teaspoon 5 mL 5 mL 5 mL 4.93 mL 5 mL Dessertspoon 10 mL — 10 mL — — Tablespoon 20 mL 15 mL 15 mL 14.79 mL 15 mL Fluid ounce — — 28.41 mL 29.57 mL 30 mL Cup 250 mL 250 mL — 236.59 mL 240 mL Pint 570 mL — 568.26 mL 473.18 mL — Quart — — 1.14 L 0.95 L — Gallon — — 4.55 L 3.79 L — The most common practical cooking measures for both liquid and dry ingredients in the U.S. are teaspoon, tablespoon, and cup, along with halves, thirds, quarters, and eighths of each. Units used are pounds, ounces, and fluid ounces. Common sizes are also used, such as can (presumed size varies depending on product), jar, square (e.g. of chocolate), stick (e.g. of butter), or portion of fruit or vegetable (e.g. a half lemon, two medium onions).[28] Degrees Fahrenheit are used in the U.S. to measure temperatures in most non-scientific contexts. The Rankine scale of absolute temperature is used in engineering thermodynamics when the Fahrenheit scale is employed. (0 °Ra = absolute zero = –459.67 °F) Scientists worldwide use the kelvin and degree Celsius. Several U.S. technical standards are expressed in Fahrenheit temperatures, and some American medical practitioners use degrees Fahrenheit for body temperature. The relationship between the different temperature scales is linear but the scales have different zero points, so conversion is not simply multiplication by a factor. Pure water freezes at 32 °F = 0 °C and boils at 212 °F = 100 °C at 1 atm. The conversion formula is: { T } ∘ F = 9 5 { T } ∘ C + 32 {\displaystyle \{T\}_{\mathrm {^{\circ }F} }={\tfrac {9}{5}}\{T\}_{\mathrm {^{\circ }C} }+32} or inversely as { T } ∘ C = 5 9 ({ T } ∘ F − 32) . {\displaystyle \{T\}_{\mathrm {^{\circ }C} }={\tfrac {5}{9}}{\bigl (}\{T\}_{\mathrm {^{\circ }F} }-32{\bigr)}.} Length 1 hand = 4 in = 101.6 mm 1 U (rack unit) = 1.75 in = 44.45 mm Volume 1 board-foot = 1 ft × 1 ft × 1 in = 2.360 L Mass 1 slug = 1 lbf·s2/ft ≈ 14.59390 kg Force 1 poundal = force to accelerate 1 pound mass 1 foot/second/second ≈ 0.138 newtons. 1 kip = 1000 lbf ≈ 4.44822 kN Energy 1 foot-pound ≈ 1.356 J 1 British thermal unit (Btu) ≈ 1.055 kJ (1,054–1,060 J, depending on which of several definitions of Btu is used) 1 Quad 1015 Btu, one quadrillion Btu (short-scale) or 1.055×1018 joule (1.055 exajoules or EJ) Power 1 horsepower ≈ 745.7 W 1 ton of refrigeration (12,000 Btu/h) = 3.517 kW Pressure 1 inch of mercury = the pressure produced by 1 inch height of mercury = 3,386.39 pascals (33.8639 hPa, millibars) 1 pound per square inch (psi) ≈ 6,895 Pa Torque 1 pound-foot ≈ 1.356 N·m Insulation 1 R-value (ft2·°F·h/Btu) ≈ 0.1761 RSI (K·m2/W) Various combination units are in common use; these are straightforwardly defined based on the above basic units. Sizing systems are used for various items in commerce, several of which are U.S.-specific: US standard clothing size American wire gauge is used for most metal wire. Scoop (utensil) sizes, numbered by scoops per quart Thickness of leather is measured in ounces, 1 oz equals 1⁄64 inch (0.40 mm).[29] Bolts and screws follow the Unified Thread Standard rather than the ISO metric screw thread standard. Knitting needles in the United States are measured according to a non-linear unitless numerical system. Thickness of aluminum foil is measured in mils (1⁄1000 inch, or 0.0254 mm) in the United States. Cross-sectional area of electrical wire is measured in circular mils in the U.S. and Canada, one circular mil (cmil) being equal to 5.067×10−4 mm2 (or 7.854×10−7 in2). Since this is so small, actual wire is commonly measured in thousands of a cmil, called either kcmil or MCM. The mil or thou is also sometimes used to mean thousandth of an inch. Sheet metal in the U.S. is commonly measured in gauge (not to be confused with the American wire gauge), which is derived from weight and thus differs by material. Nominal Pipe Size is used for the outside diameter of pipes. Below NPS14, the NPS number is not consistent with the pipe diameter in inches. Copper tubing, however, is measured in nominal size, 1⁄8 inch less than the outside diameter. The Schedule system is used for standard pipe thicknesses. Alcohol content is frequently given in proof, 2 × percent alcohol by volume The cord is used for volume of firewood. The square is used to mean 100 square feet in construction. Heat flux in the U.S. is measured in langleys. The United States Code refers to these units as "traditional systems of weights and measures".[30] Other common ways[citation needed] of referring to the system are: customary, standard, English, or imperial (which refers to the post-1824 reform measures used throughout the British Empire & Commonwealth countries). [31] Another term is the foot–pound–second (FPS) system, as opposed to centimeter–gram–second (CGS) and meter–kilogram–second (MKS) systems. Tools and fasteners with sizes measured in inches are sometimes called "SAE bolts" or "SAE wrenches" to differentiate them from their metric counterparts. The Society of Automotive Engineers (SAE) originally developed fasteners standards using U.S. units for the U.S. auto industry; the organization now largely uses metric units.[32] Board foot Conversion of units History of measurement and units of measurement Plan for Establishing Uniformity in the Coinage, Weights, and Measures of the United States (1790) Mars Climate Orbiter, which failed due to a measurement-units-related software bug Standard cubic foot ^ "US leaves the world puzzled by dragging its feet on metric system". The Nation Thailand. December 26, 2015. Retrieved January 28, 2023.[better source needed] ^ Barbrow, L.E. and Judson, L. V. 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