

Units of Weight and Measure

(United States Customary and Metric)

Definitions and Tables of Equivalents



United States Department of Commerce

National Bureau of Standards

Miscellaneous Publication 233

THE NATIONAL BUREAU OF STANDARDS

Functions and Activities

The functions of the National Bureau of Standards are set forth in the Act of Congress, March 3, 1901, as amended by Congress in Public Law 619, 1950. These include the development and maintenance of the national standards of measurement and the provision of means and methods for making measurements consistent with these standards; the determination of physical constants and properties of materials; the development of methods and instruments for testing materials, devices, and structures; advisory services to government agencies on scientific and technical problems; invention and development of devices to serve special needs of the Government; and the development of standard practices, codes, and specifications. The work includes basic and applied research, development, engineering, instrumentation, testing, evaluation, calibration services, and various consultation and information services. Research projects are also performed for other government agencies when the work relates to and supplements the basic program of the Bureau or when the Bureau's unique competence is required. The scope of activities is suggested by the listing of divisions and sections on the inside of the back cover.

Publications

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Information on the Bureau's publications can be found in NBS Circular 460, Publications of the National Bureau of Standards (\$1.25) and its Supplement (\$1.50), available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Errata to accompany National Bureau of Standards Miscellaneous
Publication 233, Units of Weight and Measure--Definitions and
Tables of Equivalents

Page 8, Section 6. 2.

Equivalent of 1 square rod is 272. 25 square feet.

Page 10, Section 6. 6.

Equivalent of 1 apothecary or troy pound is 5, 760 grains.

Equivalent of 1 kilogram is 15 432. 36 grains.

Page 10, Section 6. 7.

Correct spelling: Avoirdupois (3 instances).

Page 17, Section 8. 5.

Correct to read:

Velocity

1 foot per second = 0. 3048 meter per second

1 foot per second = 0. 3048 x 60 meter per minute

1 foot per minute = $\frac{0. 3048}{60}$ meters per second

(See appropriate length conversion tables)

Acceleration

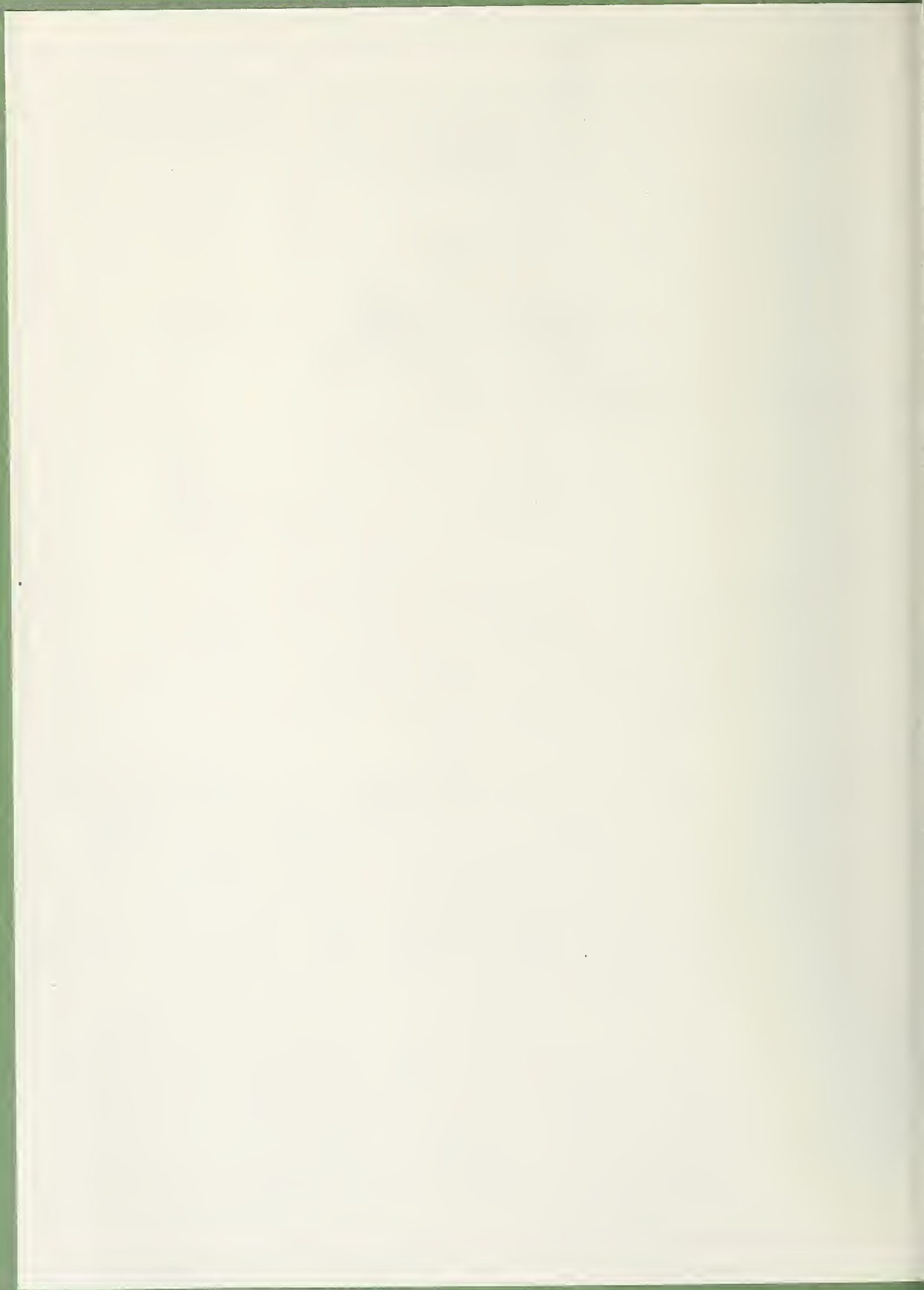
1 foot per second per second = 0. 3048 meter per second per second

1 foot per second per second = 0. 3048 x 60 x 60 meter per minute
per minute

1 foot per minute per minute = $\frac{0. 3048}{60 \times 60}$ meters per second per second

(See appropriate length conversion tables)

December 18, 1961



UNITED STATES DEPARTMENT OF COMMERCE • Frederick H. Mueller, *Secretary*
NATIONAL BUREAU OF STANDARDS • A. V. Astin, *Director*

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(United States Customary and Metric)

Definitions and Tables of Equivalents



National Bureau of Standards Miscellaneous Publication 233

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(Supersedes Miscellaneous Publication 214)

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Units of Weight and Measure

(United States Customary and Metric)

Definitions and Tables of Equivalents

L. V. Judson

The units of length, area, volume, capacity, and mass in the United States are defined. Tables of interrelation and tables of equivalents for these units in the metric system and in the U.S. customary system are given. All values in the text and in the tables have been revised to be in accord with the Federal Register announcement of July 1, 1959, an announcement entitled "Refinement of Values for the Yard and Pound" in accordance with an agreement among the directors of National Standards Laboratories of English-speaking nations to obtain uniformity in precise measurements involving the yard and the pound. The long tables were all recomputed on an automatic computer and printer. Material on the status of the metric system in the United States was deleted as not being germane to the the main purpose of the publication. The tables showing interrelation (1 to 999 units) between bushels and hectoliters were deleted. A more complete table (0.01 to 19.99 units) showing equivalents of inches in millimeters has been added. This is a revision of Miscellaneous Publications 214.

1. INTRODUCTION

This publication supersedes National Bureau of Standards Miscellaneous Publication 214, issued in 1955. Refinements in the definition of U.S. customary units of length and mass that became effective July 1, 1959 made it desirable to prepare a new publication giving these revised definitions and the revised tables of equivalents based on them. Two tables that were probably very little used were deleted and several new tables were added.

In the construction of the tables in this publication, when the fundamental relation of the units furnished directly a reduction factor for use in determining the multiples of the units, this factor was used in its fundamental form, as for example, that 1 yard = 0.9144 meter. Reduction factors which it was necessary to obtain, however, by multiplication, division, powers, or roots, etc., of the fundamental relations were usually carried out to a greater degree of accuracy than that to which it is usually possible to make measurements, for convenience in computing the multiples to the accuracy desired.

When the tables do not give the equivalent of any desired quantity directly and completely, the equivalent can usually be obtained, without the necessity of making a multiplication of these reduction factors, by using quantities from several tables, making a shift of decimal points, if necessary, and merely adding the results. Thus, if the equivalent of 24 751 feet, $7\frac{3}{4}$ inches is required, one proceeds as follows:

24 700 feet =	100×247 feet =	7 528.560 meter	(page 28)
	51 feet =	15.545 meter	(page 29)
7 inches =	177.8 millimeters =	0.178 meter	(page 12)
$\frac{3}{4}$ inch =	19.050 millimeters =	0.019 meter	(page 15)

$$24\,751 \text{ feet, } 7\frac{3}{4} \text{ inches} = 7\,544.302 \text{ meter}$$

The supplementary metric units are formed by combining the words "meter", "gram", and "liter" with numerical prefixes, as in the following table:

Prefixes	Meaning		Units
pico- <i>one trillionth</i>	$\frac{1}{1\,000\,000\,000\,000}$	0.000 000 000 001	“meter” for length
nano- <i>one billionth</i>	$\frac{1}{1\,000\,000\,000}$	0.000 000 001	
micro- = <i>one millionth</i>	$\frac{1}{1\,000\,000}$	0.000 001	
milli- = <i>one thousandth</i>	$\frac{1}{1\,000}$	0.001	
centi- = <i>one hundredth</i>	$\frac{1}{100}$	0.01	
deci- = <i>one tenth</i>	$\frac{1}{10}$	0.1	
<i>Unit = one</i>		1	
deka- = <i>ten</i>	$\frac{10}{1}$	10	
hecto- = <i>one hundred</i>	$\frac{100}{1}$	100	
kilo- = <i>one thousand</i>	$\frac{1\,000}{1}$	1 000	
mega- = <i>one million</i>	$\frac{1\,000\,000}{1}$	1 000 000	“gram” for weight or mass.
giga- = <i>one billion</i>	$\frac{1\,000\,000\,000}{1}$	1 000 000 000	
tera- = <i>one trillion</i>	$\frac{1\,000\,000\,000\,000}{1}$	1 000 000 000 000	

Not all of the 36 possible combinations of the above prefixes and units are in common use; for example the dekameter and the hectometer are seldom found except in text books. The first two and the last two of these prefixes are of recent origin. The word “micron” is usually used instead of “micrometer”.

All lengths, areas, and cubic measures in the following tables are derived from the international meter, the basic relation between units of the United States customary and the metric systems being:

$$1 \text{ U.S. yard} = 0.9144 \text{ meter.}$$

Any data expressed in feet derived from and published as a result of geodetic surveys within the United States will continue to bear the following relationship as defined in 1893:

$$1 \text{ foot} = \frac{1200}{3937} \text{ meter.}$$

The foot unit defined by this equation is referred to as the U.S. Survey Foot. *No tables involving this unit are included in this publication.*

All capacities are based on the equivalent 1 liter equals 1.000 028 cubic decimeters.¹ The decimeter is equal to approximately 3.937 007 9 inches in accordance with the legal equivalent of the yard given above. The gallon referred to in the tables is the United States gallon

¹ Formerly this relation was given as 1 liter = 1.000 027 cubic decimeters. See Guillaume, *La Creation du Bureau International des Poids et Mesure et son Oeuvre*, Paris, 1927, pages 256 to 258, for reasons for the change.

of 231 cubic inches. The bushel is the United States bushel of 2 150.42 cubic inches. These units must not be confused with the British units of the same name which differ from those used in the United States. The British gallon (277.42 cubic inches) is approximately 20 percent larger, and the British bushel (2 219.36 cubic inches) is 3 percent larger than the corresponding units used in this country.

All weights are derived from the International Kilogram, as authorized in the Mendenhall Order of April 5, 1893.² The relation used is 1 avoirdupois pound = 453.592 37 grams.³

2. FUNDAMENTAL EQUIVALENTS

In its original conception the meter was the fundamental unit of the metric system, and all units of length and capacity were to be derived directly from the meter which was intended to be equal to one ten-millionth of the earth's quadrant. Furthermore, it was originally planned that the unit of mass, the kilogram, should be identical with the mass of a cubic decimeter of water at its maximum density. At present, however, the units of length and mass are defined independently of these conceptions.

In October 1960, it was agreed at the Eleventh General (International) Conference on Weights and Measures to redefine the meter in terms of the wavelength of the orange-red radiation in vacuum of krypton 86 corresponding to the unperturbed transition between the $2p_{10}$ and $5d_5$ levels as follows:

$$1 \text{ meter} = 1\,650\,763.73 \text{ wavelengths.}$$

This corresponds to a wavelength (krypton 86 orange-red) of

$$6\,057.802\,1 \times 10^{-7} \text{ millimeter.}$$

Thus, as for more than 150 years, the meter bears no definite relation to the earth's quadrant. From the time of the adoption of the International Prototype Meter in 1889, the meter had been defined in terms of that standard, a platinum-iridium bar kept at the International Bureau of Weights and Measures in Sèvres, France, a suburb of Paris. At the Seventh General Conference in 1927 a supplementary relation between the meter and the wavelength of light was adopted. This relation for red cadmium light waves under specified conditions of temperature, pressure, and humidity was: 1 meter = 1 553 164.13 wavelengths. This corresponds to a wavelength (cadmium red) of $6\,438.469\,6 \times 10^{-7}$ millimeter. The number of wavelengths of the krypton 86 radiation in one meter, 1 650 763.73, was obtained by comparing interferometrically orange-red krypton 86 radiation with the red cadmium radiation.

The kilogram is independently defined as the mass of a definite platinum-iridium standard, the International Prototype Kilogram, which is also kept at the International Bureau of Weights and Measures. The liter is defined as the volume of a kilogram of water, at standard atmospheric pressure, and at the temperature of its maximum density, approximately 4°C. The meter is thus a unit on which is based all metric standards and measurements of length and area, and of volume derived from linear measurements.

The kilogram is the unit on which are based all metric standards of mass. The liter is a derived unit of capacity or volume. The liter is larger by about 28 parts per million than the cube of the tenth of the meter, i. e., the cubic decimeter—that is, 1 liter = 1.000 028 cubic decimeters.

3. DEFINITIONS OF UNITS

3.1. LENGTH

Fundamental Units

A meter (m) is a unit of length equal to 1 650 763.73 times the wavelength of the orange-red radiation of krypton 86 under specified conditions.

A yard (yd) is a unit of length equal to 0.914 4 meter.

² U. S. Coast and Geodetic Survey Bulletin 26, Apr. 5, 1893.

³ Federal Register, July 1, 1959.

⁴ J. R. Benoit, C. Fabry, and A. Perot, Nouvelle détermination du rapport des longueurs d'onde fondamentales avec l'unité métrique. Trav. et Mém. Bur. Int. Poids et Mesures 13, 131 (1913).

Multiples and Submultiples

- 1 kilometer (km) = 1 000 meters.
1^hectometer (hm) = 100 meters.
1 dekameter (dkm) = 10 meters.
1^decimeter (dm) = 0.1 meter.
1^centimeter (cm) = 0.01 meter.
1 millimeter (mm) = 0.001 meter.
1 micron (μ) = 0.000 001 meter = 0.001 millimeter.
1 millimicron (m μ) = 0.000 000 001 meter = 0.001 micron.
1 angstrom (A) $\left\{ \begin{array}{l} = 0.000\ 000\ 1\ \text{millimeter}.^5 \\ = .000\ 1\ \text{micron}. \\ = .1\ \text{millimicron}. \end{array} \right.$
1 statute mile $\left\{ \begin{array}{l} = 8\ \text{furlongs} = 320\ \text{rods}. \\ = 1\ 760\ \text{yards} = 5\ 280\ \text{feet}. \end{array} \right.$
1 furlong = $\frac{1}{8}$ mile = 40 rods = 220 yards = 660 feet.
1 rod = $5\frac{1}{2}$ yards = $16\frac{1}{2}$ feet = 25 links.
1 foot = $\frac{1}{3}$ yard = 12 inches.
1 hand = 4 inches.
1 inch = $\frac{1}{36}$ yard = $\frac{1}{12}$ foot.
1 line (button) = $\frac{1}{40}$ inch.
1 point (printers) = 0.013 837 inch = $\frac{1}{72}$ inch (nearly).
1 mil = $\frac{1}{1000}$ inch.
1 chain (Gunter's) = 4 rods = 22 yards = 66 feet = 100 links.
1 link (Gunter's) = $\frac{1}{100}$ chain = 7.92 inches.
1 international nautical mile = 1 852 meters = 6 076.115 49 feet (approximately).⁶
1 fathom = 6 feet = 8 spans.
1 span = $\frac{1}{8}$ fathom = 9 inches.

3.2. AREA

Fundamental Units

A square meter (m²) is a unit of area equal to the area of a square the sides of which are 1 meter.

A square yard (yd²) is a unit of area equal to the area of a square the sides of which are 1 yard.

Multiples and Submultiples

- 1 square kilometer (km²) = 1 000 000 square meters.
1 hectare (ha), or square hectometer (hm²) = 10 000 square meters.
1 are (a), or square dekameter (dkm²) = 100 square meters.
1 centare (ca) = 1 square meter.
1 square decimeter (dm²) = 0.01 square meter.
1 square centimeter (cm²) = 0.000 1 square meter.
1 square millimeter (mm²) = 0.000 001 square meter.
1 square mile (mi²) $\left\{ \begin{array}{l} = 640\ \text{acres} = 102\ 400\ \text{square rods}. \\ = 3\ 097\ 600\ \text{square yards} = 27\ 878\ 400\ \text{square feet}. \end{array} \right.$
1 acre (acre) = 10 square chains $\left\{ \begin{array}{l} = 160\ \text{square rods} = 4\ 840\ \text{square yards}. \\ = 43\ 560\ \text{square feet}. \end{array} \right.$
1 square chain (ch²) $\left\{ \begin{array}{l} = 16\ \text{square rods} = 484\ \text{square yards} = 4\ 356\ \text{square feet}. \\ = 10\ 000\ \text{square links}. \end{array} \right.$
1 square link (li²) $\left\{ \begin{array}{l} = 0.000\ 1\ \text{square chain} = 0.048\ 4\ \text{square yard}. \\ = 0.435\ 6\ \text{square foot} = 62.726\ 4\ \text{square inches}. \end{array} \right.$

⁵ The angstrom is defined basically as the unit such that 6 438.469 6 of these units equal the wavelength of the red radiation of cadmium under specified conditions.

⁶ Prior to July 1, 1954 the U.S. nautical mile of 1 853.248 meters = 6 080.20 feet was in use in this country.

1 square rod (rd²) = 30.25 square yards = 272.27 square feet = 625 square links.

1 square foot (ft²) = $\frac{1}{9}$ square yard = 144 square inches.

1 square inch (in.²) = $\frac{1}{1296}$ square yard = $\frac{1}{144}$ square foot.

3.3. VOLUME

Fundamental Units

A cubic meter (m³) is a unit of volume equal to a cube the edges of which are 1 meter.

A cubic yard (yd³) is a unit of volume equal to a cube the edges of which are 1 yard.

Multiples and Submultiples

1 cubic kilometer (km³) = 1 000 000 000 cubic meters.

1 cubic hectometer (hm³) = 1 000 000 cubic meters.

1 cubic dekameter (dkm³) = 1 000 cubic meters.

1 stere (s) = 1 cubic meter.

1 cubic decimeter (dm³) = 0.001 cubic meter.

1 cubic centimeter (cm³) = 0.000 001 cubic meter = 0.001 cubic decimeter.

1 cubic millimeter (mm³) = 0.000 000 001 cubic meter = 0.001 cubic centimeter.

1 cubic foot (ft³) = $\frac{1}{27}$ cubic yard.

1 cubic inch (in.³) = $\frac{1}{46656}$ cubic yard = $\frac{1}{1728}$ cubic foot.

1 board foot (fbm) = 144 cubic inches = $\frac{1}{12}$ cubic foot.

1 cord (cd) = 128 cubic feet.

3.4. CAPACITY

Fundamental Units

A liter (liter) is a unit of capacity equal to the volume occupied by 1 kilogram of pure water at its maximum density (at a temperature of 4° C, practically) and under the standard atmospheric pressure (of 760 mm). It is equivalent in volume to 1.000 028 cubic decimeters.

A gallon (gal) is a unit of capacity equal to the volume of 231 cubic inches. It is used for the measurement of liquid commodities only.

A bushel (bu) is a unit of capacity equal to the volume of 2 150.42 cubic inches. It is used in the measurement of dry commodities only.⁷

Multiples and Submultiples

1 hectoliter (hl) = 100 liters.

1 dekaliter (dkl) = 10 liters.

1 deciliter (dl) = 0.1 liter.

1 centiliter (cl) = 0.01 liter.

1 milliliter (ml) = 0.001 liter = 1.000 028 cubic centimeters.

1 liquid quart (liq qt) = $\frac{1}{4}$ gallon = 57.75 cubic inches.

1 liquid pint (liq pt) = $\frac{1}{8}$ gallon = $\frac{1}{2}$ liquid quart = 28.875 cubic inches.

1 gill (gi) = $\frac{1}{32}$ gallon = $\frac{1}{4}$ liquid pint = 7.218 75 cubic inches.

1 fluid ounce (fl oz) = $\frac{1}{128}$ gallon = $\frac{1}{16}$ liquid pint.

1 fluid dram (fl dr) = $\frac{1}{8}$ fluid ounce = $\frac{1}{256}$ liquid pint.

1 minim (min or $\text{m}\ddot{\text{u}}$) = $\frac{1}{60}$ fluid dram = $\frac{1}{480}$ fluid ounce.

1 peck (pk) = $\frac{1}{4}$ bushel = 537.605 cubic inches.

1 dry quart (dry qt) = $\frac{1}{32}$ bushel = $\frac{1}{8}$ peck = 67.200 625 cubic inches.

1 dry pint (dry pt) = $\frac{1}{64}$ bushel = $\frac{1}{2}$ dry quart = 33.600 312 5 cubic inches.

1 barrel, for fruits, vegetables, and other dry commodities, other than cranberries,⁸ = 7 056 cubic inches = 105 dry quarts.

1 barrel for cranberries = 5 826 cubic inches.⁹

⁷ This is the so-called stricken or struck bushel. A heaped bushel for apples of 2 747.715 cubic inches was established by the U. S. Court of Customs Appeals on Feb. 15, 1912, in *United States v. Weber* (no. 757). A heaped bushel, equivalent to $1\frac{1}{4}$ stricken bushels is also recognized.

⁸ As fixed by United States standard barrel act (United States Code, title 15, ch. 6, sec. 234).

⁹ As computed from dimensions fixed by United States standard barrel act, see above.

Fundamental Units

A kilogram (kg) is a unit of mass equal to the mass of the International Prototype Kilogram.

A gram (g) is a unit of mass equal to one-thousandth of the mass of the International Prototype Kilogram.

An avoirdupois pound (lb avdp) is a unit of mass equal to 0.453 592 37 kilogram.

A troy pound (lb t) is a unit of mass equal to $\frac{5\,760}{7\,000}$ of that of the avoirdupois pound.

Multiples and Submultiples

1 metric ton (t) = 1 000 kilograms.

1 hectogram (hg) = 100 grams.

1 dekagram (dkg) = 10 grams.

1 decigram (dg) = 0.1 gram.

1 centigram (cg) = 0.01 gram.

1 milligram (mg) = 0.001 gram.

1 metric carat¹⁰ (c) = 200 milligrams = 0.2 gram.

1 avoirdupois ounce (oz avdp) = $\frac{1}{16}$ avoirdupois pound = 437.5 grains.

1 avoirdupois dram (dr avdp) = $\frac{1}{256}$ avoirdupois pound = $\frac{1}{16}$ avoirdupois ounce.

1 grain (grain) = $\frac{1}{7\,000}$ avoirdupois pound = $\frac{1}{5\,760}$ troy pound.

1 apothecaries pound (lb ap) = 1 troy pound = $\frac{5\,760}{7\,000}$ avoirdupois pound.

1 apothecaries or troy ounce (oz ap or $\mathfrak{z}$, oz t) = $\frac{1}{12}$ troy pound = $\frac{4\,800}{7\,000}$ avoirdupois pound = 480 grains.

1 apothecaries dram (dr ap or $\mathfrak{d}$) = $\frac{1}{96}$ apothecaries pound = $\frac{1}{8}$ apothecaries ounce = 60 grains.

1 pennyweight (dwt) = $\frac{1}{20}$ troy ounce = 24 grains.

1 apothecaries scruple (s ap or $\mathfrak{s}$) = $\frac{1}{3}$ apothecaries dram = 20 grains.

1 short hundredweight (sh cwt) = 100 avoirdupois pounds.

1 long hundredweight = 112 avoirdupois pounds.

1 short ton = 2 000 avoirdupois pounds.

1 long ton = 2 240 avoirdupois pounds.

4. UNITS AND STANDARDS

Units of measurement and standards of measurement must be carefully distinguished.

A *unit* is a value, quantity, or magnitude in terms of which other values, quantities, or magnitude are expressed. In general a unit is fixed by definition and is independent of such physical conditions as temperature. This publication is concerned with the units of weights and measures used in the United States, especially with the numerical relations among various units.

A *standard* is the physical embodiment of a unit. In general a standard is not independent of physical conditions and is the true embodiment of the unit only under specified conditions. For example, a yard standard has a length of one yard only when at one particular temperature and when supported in a certain manner. If supported in a different manner, the standard would have to be at a different temperature in order to have a length of exactly one yard.

Some standards are fundamental in their character, and units are defined in terms of these standards. Such standards must be relatively stable in dimensions and other characteristics over long periods of time. The definitions of the units in terms of these standards

¹⁰ See National Bureau of Standards Circular C43, The Metric Carat, for a discussion of the metric carat and tables of the relations of the metric carat to the old carat of 205.3 milligrams in use in this country previous to July 1, 1913.

must be very specific. Such a standard is the International Prototype Meter. Different orders of accuracy and importance, are assigned to other standards such as national standards, scientific laboratory standards, and manufacturers' standards.

Information about suitable standards of weights and measures for specific purposes and about calibration of such standards by the National Bureau of Standards can be found in other publications of the Bureau or may be obtained directly from the Bureau.

5. SPELLING AND ABBREVIATION OF UNITS

The spelling of the names of units as adopted by the National Bureau of Standards is that given in the list below. The spelling of the metric units is in accordance with that given in the law of July 28, 1866, legalizing the metric system in the United States.

Following the name of each unit in the list below is given the abbreviation which the Bureau has adopted. Attention is particularly called to the following principles:

1. The period is omitted after all abbreviations of units, except where the abbreviation forms an English word.

2. The exponents "2" and "3" are used to signify "square" and "cubic", respectively, instead of the abbreviations "sq" or "cu", which are, however, frequently used in technical literature for the United States customary units. In conformity with this principle the abbreviation for cubic centimeter is "cm³" (instead of "cc" or "c cm"). The term "cubic centimeter", as used in chemical work, is, in fact, a misnomer, since the unit actually used is the "milliliter", of which the correct abbreviation is "ml" (see p. 1).

3. The use of the same abbreviation for both singular and plural is recommended. This practice is already established in expressing metric units and is in accordance with the spirit and chief purpose of abbreviations.

4. It is also suggested that, unless all the text is printed in capital letters, only small letters be used for abbreviations, except in such case as, A for angstrom, etc., where the use of capital letters is general.

5.1. LIST OF THE MOST COMMON UNITS OF WEIGHT AND MEASURE AND THEIR ABBREVIATIONS

Unit	Abbreviation	Unit	Abbreviation	Unit	Abbreviation
acre	acre	dram, avoirdupois	dr avdp	ounce, apothecaries	oz ^a ap or $\overline{3}$
angstrom	Å	dram, fluid	fl dr	ounce, avoirdupois	oz ^a avdp
are	a	fathom	fath	ounce, fluid	fl oz
avoirdupois	avdp	foot	ft	ounce, troy	oz t
barrel	bbl	furlong	fur.	peck	pk
board foot	fbm	gallon	gal	pennyweight	dwt
bushel	bu	grain	grain	pint	pt
carat	c	gram	g	pound	lb
centare	ca	hectare	ha	pound, apothecaries	lb ap
centigram	cg	hectogram	hg	pound, avoirdupois	lb avdp
centiliter	cl	hectoliter	hl	pound, troy	lb t
centimeter	cm	hectometer	hm	quart	qt
chain	ch	hogshead	hhd	rod	rd
cubic centimeter	cm ³	hundredweight	cwt	scruple, apothecaries	s ap or $\overline{\Theta}$
cubic decimeter	dm ³	inch	in.	square centimeter	cm ²
cubic dekameter	dkm ³	kilogram	kg	square chain	ch ²
cubic foot	ft ³	kiloliter	kl	square decimeter	dm ²
cubic hectometer	hm ³	kilometer	km	square dekameter	dkm ²
cubic inch	in. ³	link	li	square foot	ft ²
cubic kilometer	km ³	liquid	liq	square hectometer	hm ²
cubic meter	m ³	liter	liter	square inch	in. ²
cubic mile	mi ³	meter	m	square kilometer	km ²
cubic millimeter	mm ³	metric ton	t	square link	li ²
cubic yard	yd ³	microgram*	μg	square meter	m ²
decigram	dg	microinch	μin.	square mile	mi ²
deciliter	dl	microliter*	μl	square millimeter	mm ²
decimeter	dm	micron	μ	square rod	rd ²
decistere	ds	mile	mi	square yard	yd ²
dekagram	dkg	milligram	mg	stere	s
dekaliter	dkl	milliliter	ml	ton	ton
dekameter	dkm	millimeter	mm	ton, metric	t
dekastere	dks	millimicron	μμ	troy	t
dram	dr	minim	min or ʒ	yard	yd
dram, apothecaries	dr ap or $\overline{3}$	ounce	oz		

* The abbreviations γ and λ for microgram and microliter, respectively, have been advocated by some authorities.

6. TABLES OF INTERRELATION

6.1. UNITS

Units	Inches	Links	Feet	Yards	Rods
1 inch =	1	0.126 262 6	0.083 333 33	0.027 777 78	0.005 050 505
1 link =	7.92	1	0.66	0.22	0.04
1 foot =	12	1.515 152	1	0.333 333 3	0.060 606 06
1 yard =	36	4 545 45	3	1	0.181 818 2
1 rod =	198	25	16.5	5.5	1
1 chain =	792	100	66	22	4
1 mile =	63 360	8000	5280	1760	320
1 centimeter =	0.393 700 8	0.049 709 70	0.032 808 40	0.010 936 13	0.001 988 388
1 meter =	39.370 08	4.970 970	3.280 840	1.093 613	0.198 838 8

6.2. UNITS

	Square inches	Square links	Square feet	Square yards	Square rods	Square chains
1 square inch =	1	0.015 942 25	0.006 944 444	0.000 771 604 9	0.000 025 507 60	0.000 001 594 22
1 square link =	62.726 4	1	0.435 6	0.048 4	0.001 6	0.000 1
1 square foot =	144	2.295 684	1	0.111 111 1	0.003 673 095	0.000 229 568 4
1 square yard =	1296	20.661 16	9	1	0.033 057 85	0.002 066 116
1 square rod =	39 204	625	272.75	30.25	1	0.062 5
1 square chain =	627 264	10 000	4356	484	16	1
1 acre =	6 272 640	100 000	43 560	4840	160	0
1 square mile =	4 014 489 600	64 000 000	27 878 400	3 097 600	102 400	60
1 square centimeter =	0.155 000 3	0.002 471 054	0.001 076 391	0.000 119 599 0	0.000 003 953 686	0.000 000 247 104
1 square meter =	1550.003	24.710 54	10.763 91	1.195 990	0.039 536 86	0.002 471 054
1 hectare =	15 500 031	247 105.4	107 639.1	11 959.90	395.368 6	24.710 54

6.3. UNITS

Units	Cubic inches	Cubic feet	Cubic yards
1 cubic inch =	1	0.000 578 703 7	0.000 021 433 47
1 cubic foot =	1728	1	0.037 037 04
1 cubic yard =	46 656	27	1
1 cubic centimeter =	0.061 023 74	0.000 035 314 67	0.000 001 307 951
1 cubic decimeter =	61.023 74	0.035 314 67	0.001 307 951
1 cubic meter =	61 023.74	35.314 67	1.307 951

6.4. UNITS OF CAPACITY

Units	Minims	Fluid drams	Fluid ounces	Gills	Liquid pints
1 minim =	1	0.016 666 67	0.002 083 333	0.000 520 833 3	0.000 130 208 3
1 fluid dram =	60	1	0.125	0.031 25	0.007 812 5
1 fluid ounce =	480	8	1	0.25	0.062 5
1 gill =	1920	32	4	1	0.25
1 liquid pint =	7680	128	16	4	1
1 liquid quart =	15 360	256	32	8	2
1 gallon =	61 440	1024	128	32	8
1 cubic inch =	265.974 0	4.432 900	0.554 112 6	0.138 528 1	0.034 632 03
1 cubic foot =	459 603.1	7660.052	957.506 5	239.376 6	59.844 16
1 milliliter =	16.231 19	0.270 519 8	0.033 814 97	0.008 453 742	0.002 113 436
1 liter =	16 231.19	270.519 8	33.814 97	8.453 742	2.113 436

0 UNITS OF MEASUREMENT

LENGTH

Chains	Miles	Centimeters	Meters	Units
0.001 262 626	0.000 015 782 83	2.54	0.025 4	=1 inch
0.01	0.000 125	20.116 8	0.201 168	=1 link
0.015 151 52	0.000 189 393 9	30.48	0.304 8	=1 foot
0.045 454 55	0.000 568 181 8	91.44	0.914 4	=1 yard
0.25	0.003 125	502.92	5.029 2	=1 rod
1	0.012 5	2011.68	20.116 8	=1 chain
80	1	160 934.4	1609.344	=1 mile
0.000 497 097 0	0.000 006 213 712	1	0.01	=1 centimeter
0.049 709 70	0.000 621 371 2	100	1	=1 meter

AREA

Acres	Square miles	Square centimeters	Square meters	Hectares	Units
0.000 159 422 5	0.000 000 000 249 097 7	6.451 6	0.000 645 16	0.000 000 064 516	=1 square inch
0.001	0.000 000 015 625	404.685 642 24	0.040 468 564 224	0.000 004 046 856 422 4	=1 square link
0.0022 956 84	0.000 000 035 870 06	929.030 4	0.092 903 04	0.000 009 290 304	=1 square foot
0.0206 611 6	0.000 000 322 830 6	8 361.273 6	0.836 127 36	0.000 083 612 736	=1 square yard
0.625	0.000 009 765 625	252 928.526 4	25.292 852 64	0.002 529 285 264	=1 square rod
0.	0.000 156 25	4 046 856.422 4	404.685 642 24	0.040 468 564 224	=1 square chain
1	0.001 562 5	40 468 564.224	4046.856 422 4	0.404 685 642 24	=1 acre
640	1	25 899 881 103.36	2 589 988.110 336	258.998 811 033 6	=1 square mile
0.000 024 710 54	0.000 000 000 038 610 22	1	0.000 1	0.000 000 01	=1 square centimeter
0.0247 105 4	0.000 000 386 102 2	10 000	1	0.000 1	=1 square meter
2.1054	0.003 861 022	100 000 000	10 000	1	=1 hectare

VOLUME

Cubic Centimeters	Cubic decimeters	Cubic meters	Units
16.387 064	0.016 387 064	0.000 016 387 064	=1 cubic inch
28 316.846 592	28.316 846 592	0.028 316 846 592	=1 cubic foot
764 554.857 984	764.554 857 984	0.764 554 857 984	=1 cubic yard
1	0.001	0.000 001	=1 cubic centimeter
1 000	1	0.001	=1 cubic decimeter
1 000 000	1000	1	=1 cubic meter

LIQUID MEASURE

Liquid quarts	Gallons	Cubic inches	Cubic feet	Milliliters	Liters	Units
000 065 104 17	0.000 016 276 04	0.003 759 766	0.000 002 175 790	0.061 609 79	0.000 061 609 79	=1 minim
003 906 25	0.000 976 562 5	0.225 585 9	0.000 130 547 4	3.696 588	0.003 696 588	=1 fluid dram
031 25	0.007 812 5	1.804 687 5	0.001 044 379	29.572 70	0.029 572 70	=1 fluid ounce
125	0.031 25	7.218 75	0.004 177 517	118.290 8	0.118 290 8	=1 gill
5	0.125	28.875	0.016 710 07	473.163 2	0.473 163 2	=1 liquid pint
1	0.25	57.75	0.033 420 14	946.326 4	0.946 326 4	=1 liquid quart
4	1	231	0.133 680 6	3 785.306	3.785 306	=1 gallon
017 316 02	0.004 329 004	1	0.000 578 703 7	16.386 61	0.016 386 61	=1 cubic inch
922 08	7.480 519	1728	1	28 316.05	28.316 05	=1 cubic foot
001 056 718	0.000 264 179 4	0.061 025 45	0.000 035 315 66	1	0.001	=1 milliliter
056 718	0.264 179 4	61.025 45	0.035 315 66	1000	1	=1 liter

6. TABLES OF INTERRELATION OF UNITS OF MEASUREMENT

6.1. UNITS OF LENGTH

Units	Inches	Links	Feet	Yards	Rods	Chains	Miles	Centimeters	Meters	Units
1 inch =	1	0.126 262 6	0.083 333 3	0.027 777 78	0.005 050 505	0.001 262 626	0.000 015 782 83	2.54	0.025 4	=1 inch
1 link =	7.92	1	0.66	0.22	0.04	0.01	0.000 125	20.116 8	0.201 168	=1 link
1 foot =	12	1.515 152	1	0.333 333 3	0.009 090 90	0.015 151 52	0.000 189 393 9	30.48	0.304 8	=1 foot
1 yard =	36	4.545 45	3	1	0.181 818 2	0.045 454 55	0.000 508 181 8	91.44	0.914 4	=1 yard
1 rod =	198	25	16.5	5.6	1	0.26	0.003 125	502.92	5.029 2	=1 rod
1 chain =	792	100	66	22	4	1	0.012 5	2011.68	20.116 8	=1 chain
1 mile =	63 360	8000	5280	1760	320	80	1	160 934.4	1609.344	=1 mile
1 centimeter =	0.393 700 8	0.049 709 70	0.032 808 40	0.010 936 13	0.001 983 838	0.000 497 097 0	0.000 006 213 712	1	0.01	=1 centimeter
1 meter =	39.370 08	4.970 970	3.280 840	1.093 013	0.198 838 8	0.049 709 70	0.000 621 371 2	100	1	=1 meter

6.2. UNITS OF AREA

	Square inches	Square links	Square feet	Square yards	Square rods	Square chains	Aeres	Square miles	Square centimeters	Square meters	Hectares	Units
1 square inch =	1	0.015 942 25	0.006 944 444	0.000 771 604 9	0.000 025 507 80	0.000 001 501 235	0.000 000 159 422 5	0.000 000 000 249 097 7	6.451 6	0.000 646 16	0.000 000 064 516	=1 square inch
1 square link =	62.726 4	1	0.435 6	0.048 4	0.001 6	0.000 1	0.000 01	0.000 000 015 625	404.685 642 24	0.040 468 564 224	0.000 004 046 856 422 4	=1 square link
1 square foot =	144	2.295 684	1	0.111 111 1	0.003 673 095	0.000 229 568 4	0.000 022 959 84	0.000 000 035 870 06	929.030 4	0.092 903 04	0.000 009 290 304	=1 square foot
1 square yard =	1296	20.661 16	9	1	0.033 057 85	0.002 060 116	0.000 209 611 6	0.000 000 322 830 6	8 361.273 6	0.836 127 35	0.000 083 612 736	=1 square yard
1 square rod =	39 204	626	272.75	30.26	1	0.062 6	0.006 25	0.000 009 765 626	252 928.526 4	25.292 852 64	0.002 529 285 264	=1 square rod
1 square chain =	627 264	10 000	4356	484	16	1	0.1	0.000 156 25	4 046 856.422 4	404.685 642 24	0.040 468 564 224	=1 square chain
1 acre =	6 272 640	100 000	43 560	4840	160	10	1	0.001 562 5	40 468 564.224	4046.856 422 4	0.404 685 642 24	=1 acre
1 square mile =	4 014 489 600	64 000 000	27 878 400	3 097 600	102 400	6400	640	0.000 000 024 710 54	26 899 881 103.36	2 589 988.110 336	258.998 811 632 6	=1 square mile
1 square centimeter =	0.155 000 3	0.002 471 054	0.001 076 391	0.000 119 599 0	0.000 003 953 680	0.000 000 247 106	0.000 000 024 710 54	0.000 000 000 038 610 22	1	0.000 1	0.000 000 01	=1 square centimeter
1 square meter =	1550.003	24.710 54	10.763 91	1.195 990	0.039 530 86	0.002 471 054	0.000 247 105 4	0.000 000 385 102 2	10 000	1	0.000 1	=1 square meter
1 hectare =	15 500 031	247 105.4	107 039.1	11 959.90	395.368 6	24.710 54	2.471 054	0.003 861 022	100 000 000	10 000	1	=1 hectare

6.3. UNITS OF VOLUME

Units	Cubic inches	Cubic feet	Cubic yards	Cubic Centimeters	Cubic decimeters	Cubic meters	Units
1 cubic inch =	1	0.000 578 703 7	0.000 021 433 47	16.387 064	0.016 387 064	0.000 010 387 064	=1 cubic inch
1 cubic foot =	1728	1	0.037 037 04	28 316.846 592	28.316 846 592	0.028 316 846 592	=1 cubic foot
1 cubic yard =	46 656	27	1	764 554.857 984	764.554 857 984	0.764 554 857 984	=1 cubic yard
1 cubic centimeter =	0.001 023 74	0.000 035 314 67	0.000 001 307 951	1	0.001	0.000 001	=1 cubic centimeter
1 cubic decimeter =	61.023 74	0.035 314 67	0.001 307 951	1 000	1	0.001	=1 cubic decimeter
1 cubic meter =	61 023.74	35.314 67	1.307 951	1 000 000	1000	1	=1 cubic meter

6.4. UNITS OF CAPACITY

Units	Minims	Fluid drams	Fluid ounces	Gills	Liquid pints	Liquid quarts	Gallons	Cubic inches	Cubic feet	Milliliters	Liters	Units
1 minim =	1	0.016 666 67	0.002 083 333	0.000 520 833 3	0.000 260 416 65	0.000 065 104 17	0.000 016 276 04	0.003 759 766	0.000 002 175 790	0.061 609 79	0.000 001 000 70	=1 minim
1 fluid dram =	60	1	0.125	0.031 25	0.007 812 5	0.003 906 25	0.000 976 562 5	0.225 535 9	0.000 130 647 4	3.696 588	0.003 696 688	=1 fluid dram
1 fluid ounce =	480	8	1	0.25	0.062 5	0.031 25	0.007 812 5	1.804 687 5	0.001 044 379	20.572 70	0.020 572 70	=1 fluid ounce
1 gill =	1920	32	4	1	0.25	0.125	0.031 25	7.218 75	0.004 177 617	118.290 8	0.118 290 8	=1 gill
1 liquid pint =	7680	128	16	4	1	0.5	0.125	28.875	0.016 710 07	473.163 2	0.473 163 2	=1 liquid pint
1 liquid quart =	15 360	256	32	8	2	1	0.25	57.75	0.033 420 14	946.326 4	0.946 326 4	=1 liquid quart
1 gallon =	61 440	1024	128	32	4	2	1	231	0.133 080 6	3 785.306	3.785 306	=1 gallon
1 cubic inch =	265.974 0	4.432 900	0.554 112 6	0.138 528 1	0.034 632 03	0.017 316 02 4	0.004 329 004	1	0.000 578 703 7	10.386 61	0.016 380 61	=1 cubic inch
1 cubic foot =	459 603.1	7600.052	957.506 5	239.376 6	59.844 16	29.922 08	7.480 519	1728	1	28 316.05	28.316 05	=1 cubic foot
1 milliliter =	16.231 19	0.270 519 8	0.033 814 97	0.008 463 742	0.002 113 436	0.001 056 718	0.000 264 179 4	0.061 025 45	0.000 035 315 06	1	0.001	=1 milliliter
1 liter =	16 231.19	270.519 8	33.814 97	8.453 742	2.113 436	1.056 718	0.264 179 4	61.025 45	0.035 315 06	1000	1	=1 liter

6.5. UNITS OF CAPACITY

Units	Dry pints	Dry quarts	Pecks	Bushels
1 dry pint =	1	0.5	0.062 5	0.015 625
1 dry quart =	2	1	0.125	0.031 25
1 peck =	16	8	1	0.25
1 bushel =	64	32	4	1
1 cubic inch =	0.029 761 6	0.014 880 8	0.001 860 10	0.000 465 025
1 cubic foot =	51.428 09	25.714 05	3.214 256	0.803 563 95
1 liter =	1.816 217	0.908 108 4	0.113 513 6	0.028 378 39
1 dekaliter =	18.162 17	9.081 084	1.135 136	0.283 783 9

6.6. UNITS OF MASS NOT GREAT

Units	Grains	Apothecaries scruples	Pennyweights	Avoirdupois drams	Apothecaries drams	Avoirdupois ounces
1 grain =	1	0.05	0.041 666 67	0.036 571 43	0.016 666 67	0.002 285 7
1 apoth scruple =	20	1	0.833 333 3	0.731 428 6	0.333 333 3	0.045 714 2
1 pennyweight =	24	1.2	1	0.877 714 3	0.4	0.054 857 1
1 avdp dram =	27.343 75	1.367 187 5	1.139 323	1	0.455 729 2	0.062 5
1 apoth dram =	60	3	2.5	2.194 286	1	0.137 142 9
1 avdp ounce =	437.5	21.875	18.229 17	16	7.291 667	8
1 apoth or troy ounce =	480	24	20	17.554 29	8	1.097 143
1 apoth or troy pound =	5.760	288	240	210.651 4	96	13.165 71
1 avdp pound =	7 000	350	291.666 7	256	116.666 7	1
1 milligram =	0.015 432 36	0.000 771 617 9	0.000 643 014 9	0.000 564 383 4	0.000 257 206 0	0.000 035 27 9
1 gram =	15.432 36	0.771 617 9	0.643 014 9	0.564 383 4	0.257 206 0	0.035 273 96
1 kilogram =	15 432 36	771.617 9	643.014 9	564.383 4	257.206 0	35.273 96

6.7. UNITS OF MASS NOT LESS

Units	Avoirdupois ounces	Avoirdupois pounds	Short hundred weights	Short tons
1 avoirdupois ounce =	1	0.0625	0.000 625	0.000 031 25
1 avoirdupois pound =	16	1	0.01	0.000 5
1 short hundredweight =	1 600	100	1	0.05
1 short ton =	32 000	2 000	20	1
1 long ton =	35 840	2 240	22.4	1.12
1 kilogram =	35.273 96	2.204 623	0.022 046 23	0.001 102 311
1 metric ton =	35 273.96	2204.623	22.046 23	1.102 311

MEASURE

Cubic inches	Cubic feet	Liters	Dekaliters	Units
33.600 312 5	0.019 444 63	0.550 595 1	0.055 059 51	=1 dry pint
67.200 625	0.038 889 25	1.101 190	0.110 119 0	=1 dry quart
537.605	0.311 114	8.809 521	0.880 952 1	=1 peck
2150.42	1.244 456	35.238 08	3.523 808	=1 bushel
1	0.000 578 703 7	0.016 386 61	0.001 638 661	=1 cubic inch
1728	1	28.316 05	2.831 605	=1 cubic foot
61.025 45	0.035 315 66	1	0.1	=1 liter
610.254 5	0.353 156 6	10	1	=1 dekaliter

AN POUNDS AND KILOGRAMS

Apothecaries or roy ounces	Apothecaries or troy pounds	Avourdupois pounds	Milligrams	Grams	Kilograms	Units
2 083 333	0.000 173 611 1	0.000 142 857 1	64.798 91	0.064 798 91	0.000 064 798 91	=1 grain
1 666 67	0.003 472 222	0.002 857 143	1295.978 2	1.295 978 2	0.001 295 978 2	=1 apoth scruple
6 966 15	0.004 166 667	0.003 428 571	1555.173 84	1.555 173 84	0.001 555 173 84	=1 pennyweight
5	0.004 747 179	0.003 906 25	1771.845 195 312 5	1.771 845 195 312 5	0.001 771 845 195 312 5	=1 avdp dram
1 458 3	0.010 416 67	0.008 571 429	3887.934 6	3.887 934 6	0.003 887 934 6	=1 apoth dram
1	0.075 954 86	0.062 5	28 349.523 125	28.349 523 125	0.028 349 523 125	=1 avdp ounce
12	10.083 333 333	0.068 571 43	31 103.476 8	31.103 476 8	0.031 103 476 8	=1 apoth or troy ounce
13 33	1.215 278	1 0.822 857 1	373 241.721 6	373.241 721 6	0.373 241 721 6	=1 apoth or troy pound
10 032 150 75	0.000 002 679 229	0.000 002 204 623	1 453 592.37	453.592 37	0.453 592 37	=1 avdp pound
2 150 75	0.002 679 229	0.002 204 623	1000	0.001	0.000 001	=1 milligram
10 75	2.679 229	2.204 623	1 000 000	1 000	1 0.001	=1 gram
					1	=1 kilogram

AN AVOIRDUPOIS OUNCES

Long tons	Kilograms	Metric tons	Units
0.000 027 901 79	0.028 349 523 125	0.000 028 349 523 125	=1 avoirdupois ounce
0.000 446 428 6	0.453 592 37	0.000 453 592 37	=1 avoirdupois pound
0.044 642 86	45.359 237	0.045 359 237	=1 short hundredweight
0.892 857 1	907.184 74	0.907 184 74	=1 short ton
1	1016.046 908 8	1.016 046 908 8	=1 long ton
0.000 984 206 5	1	0.001	=1 kilogram
0.984 206 5	1 000	1	=1 metric ton

6.5. UNITS OF CAPACITY

DRY MEASURE

Units	Dry pints	Dry quarts	Pecks	Bushels
1 dry pint =	1	0.5	0.062 5	0.015 625
1 dry quart =	2	1	0.125	0.031 25
1 peck =	16	8	1	0.25
1 bushel =	64	32	4	1
1 cubic inch =	0.029 761 0	0.014 880 8	0.001 886 10	0.000 405 03
1 cubic foot =	51.428 09	25.714 05	3.214 256	0.803 563 95
1 cubic meter =	1.816 217	0.908 108 4	0.113 513 6	0.028 378 39
1 liter =	18.162 17	9.081 084	1.135 136	0.283 783 9
1 dekaliter =				

Cubic inches	Cubic feet	Liters	Dekaliters	Units
33.690 312 5	0.019 444 63	0.550 595 1	0.055 059 51	=1 dry pint
67.200 625	0.038 889 25	1.101 190	0.110 110 0	=1 dry quart
537.695	0.311 114	8.809 521	0.880 952 1	=1 peck
2160.42	1.244 456	35.238 08	3.523 808	=1 bushel
1	0.000 578 703 7	0.016 386 61	0.001 638 661	=1 cubic inch
1728	1	28.316 05	2.831 605	=1 cubic foot
61.025 45	0.035 315 66	1	0.1	=1 liter
610.254 5	0.353 156 6	10	1	=1 dekaliter

6.6. UNITS OF MASS NOT GREATER

THAN POUNDS AND KILOGRAMS

Units	Grains	Apothecaries scruples	Pennyweights	Avoirdupois drams	Apothecaries drams	Avoirdupois ounces
1 grain =	1	0.05	0.041 666 67	0.036 571 43	0.016 006 67	0.002 385 714
1 apoth scruple =	20	1	0.833 333 3	0.731 428 6	0.333 333 3	0.045 714 29
1 pennyweight =	24	1.2	1	0.877 714 3	0.4	0.054 837 14
1 avdp dram =	27.343 75	1.367 187 5	1.139 323	1	0.455 729 2	0.062 5
1 apoth dram =	60	3	2.5	2.194 286	1	0.137 142 9
1 avdp ounce =	437.6	21.875	18.220 17	16	7.291 667	1
1 apoth or troy ounce =	480	24	20	17.554 29	8	1.097 143
1 apoth or troy pound =	5.760	288	240	210.651 4	96	13.165 71
1 avdp pound =	7 000	350	291.666 7	256	116.666 7	16
1 milligram =	0.015 432 36	0.000 771 617 9	0.000 643 014 9	0.000 564 383 4	0.000 257 206 0	0.000 035 273 96
1 gram =	15.432 36	0.771 617 0	0.643 014 9	0.564 383 4	0.257 206 0	0.035 273 96
1 kilogram =	15 432 36	771.617 9	643.014 9	564.383 4	257.206 0	35.273 96

Apothecaries or troy ounces	Apothecaries or troy pounds	Avoirdupois pounds	Milligrams	Grams	Kilograms	Units
0.002 083 333	0.000 173 611 1	0.000 142 857 1	64.798 91	0.064 798 91	0.000 064 798 91	=1 grain
0.041 666 67	0.003 472 222	0.002 857 143	1295.978 2	1.295 978 2	0.001 296 978 2	=1 apoth scruple
0.45	0.004 160 667	0.003 428 571	1555.173 84	1.556 173 84	0.001 655 173 84	=1 pennyweight
0.056 966 15	0.004 747 179	0.003 906 25	1771.845 196 312 5	1.771 845 195 312 5	0.001 771 845 195 312 5	=1 avdp dram
0.125	0.010 410 67	0.008 571 429	3887.934 6	3.887 934 6	0.003 887 934 6	=1 apoth dram
0.911 458 3	0.075 954 80	0.062 5	28 349.523 125	28.349 623 125	0.028 349 523 125	=1 avdp ounce
1	0.083 333 333	0.068 571 43	31 103.476 8	31.103 476 8	0.031 103 476 8	=1 apoth or troy ounce
12	1	0.822 857 1	373 241.721 6	373.241 721 6	0.373 241 721 6	=1 troy pound
14 583 33	1.215 278	1	463 592.37	453.692 37	0.453 692 37	=1 avdp pound
0.000 032 150 75	0.000 002 679 229	0.000 002 204 623	1	0.001	0.000 001	=1 milligram
0.032 150 75	0.002 679 229	0.002 204 623	1000	1	0.001	=1 gram
32.150 75	2.679 229	2.204 623	1 000 000	1 000	1	=1 kilogram

6.7. UNITS OF MASS NOT LESS

THAN AVOIRDUPOIS OUNCES

Units	Avoirdupois ounces	Avoirdupois pounds	Short hundred weights	Short tons
1 avoirdupois ounce =	1	0.0625	0.000 625	0.000 031 25
1 avoirdupois pound =	16	1	0.01	0.000 5
1 short hundredweight =	1 600	100	1	0.05
1 short ton =	32 000	2 000	20	1.12
1 long ton =	35 840	2 240	22.4	0.001 102 311
1 kilogram =	35.273 96	2.204 623	0.022 046 23	1.102 311
1 metric ton =	35 273.96	2204.623	22.046 23	

Long tons	Kilograms	Metric tons	Units
0.000 027 901 79	0.028 349 523 125	0.000 028 349 523 125	=1 avoirdupois ounce
0.000 446 428 6	0.453 692 37	0.000 453 692 37	=1 avoirdupois pound
0.044 642 86	45.359 237	0.045 359 237	=1 short hundredweight
0.892 857 1	907.184 74	0.907 184 74	=1 short ton
1	1016.046 908 8	1.016 046 908 8	=1 long ton
0.000 984 206 5	1	0.001	=1 kilogram
0.894 206 5	1 000	1	=1 metric ton

7. COMPARISON OF METRIC AND CUSTOMARY UNITS FROM 1 TO 9

7.1 LENGTH

Inches (in.)	Milli- meters (mm)	Feet (ft)	Meters (m)	Yards (yd)	Meters (m)	Rods (rd)	Meters (m)	Miles (mi)	Kilom- eters (km)
1 = 25.4		1 = 0.3048		1 = 0.9144		1 = 5.0292		1 = 1.609 344	
2 = 50.8		2 = 0.6096		2 = 1.8288		2 = 10.0584		2 = 3.218 688	
3 = 76.2		3 = 0.9144		3 = 2.7432		3 = 15.0876		3 = 4.828 032	
4 = 101.6		4 = 1.2192		4 = 3.6576		4 = 20.1168		4 = 6.437 376	
5 = 127.0		5 = 1.5240		5 = 4.5720		5 = 25.1460		5 = 8.046 720	
6 = 152.4		6 = 1.8288		6 = 5.4864		6 = 30.1752		6 = 9.656 064	
7 = 177.8		7 = 2.1336		7 = 6.4008		7 = 35.2044		7 = 11.265 408	
8 = 203.2		8 = 2.4384		8 = 7.3152		8 = 40.2336		8 = 12.874 752	
9 = 228.6		9 = 2.7432		9 = 8.2296		9 = 45.2628		9 = 14.484 096	
0.039 3701 = 1		3.280 84 = 1		1.093 613 = 1		0.198 839 = 1		0.621 371 = 1	
0.078 7402 = 2		6.561 68 = 2		2.187 227 = 2		0.397 678 = 2		1.242 742 = 2	
0.118 1102 = 3		9.842 52 = 3		3.280 840 = 3		0.596 516 = 3		1.864 114 = 3	
0.157 4803 = 4		13.123 36 = 4		4.374 453 = 4		0.795 355 = 4		2.485 485 = 4	
0.196 8504 = 5		16.404 20 = 5		5.468 066 = 5		0.994 194 = 5		3.106 856 = 5	
0.236 2205 = 6		19.685 04 = 6		6.561 680 = 6		1.193 033 = 6		3.728 227 = 6	
0.275 5906 = 7		22.965 88 = 7		7.655 293 = 7		1.391 871 = 7		4.349 598 = 7	
0.314 9606 = 8		26.246 72 = 8		8.748 906 = 8		1.590 710 = 8		4.970 970 = 8	
0.354 3307 = 9		29.527 56 = 9		9.842 520 = 9		1.789 549 = 9		5.592 341 = 9	

7.2. AREA

Square inches (in. ²)	Square centimeters (cm ²)	Square feet (ft ²)	Square meters (m ²)	Square yards (yd ²)	Square meters (m ²)	Acres (acre)	Hectares (ha)	Square miles (mi ²)	Square kilometers (km ²)
1 = 6.4516		1 = 0.092 903		1 = 0.836 13		1 = 0.404 69		1 = 2.5900	
2 = 12.9032		2 = 0.185 806		2 = 1.672 25		2 = 0.809 37		2 = 5.1800	
3 = 19.3548		3 = 0.278 709		3 = 2.508 38		3 = 1.214 06		3 = 7.7700	
4 = 25.8064		4 = 0.371 612		4 = 3.344 51		4 = 1.618 74		4 = 10.3600	
5 = 32.2580		5 = 0.464 515		5 = 4.180 64		5 = 2.023 43		5 = 12.9499	
6 = 38.7096		6 = 0.557 418		6 = 5.016 76		6 = 2.428 11		6 = 15.5399	
7 = 45.1612		7 = 0.650 321		7 = 5.852 89		7 = 2.832 80		7 = 18.1299	
8 = 51.6128		8 = 0.743 224		8 = 6.689 02		8 = 3.237 49		8 = 20.7199	
9 = 58.0644		9 = 0.836 127		9 = 7.525 15		9 = 3.642 17		9 = 23.3099	
0.155 00 = 1		10.7639 = 1		1.1960 = 1		2.4711 = 1		0.386 10 = 1	
0.310 00 = 2		21.5278 = 2		2.3920 = 2		4.9421 = 2		0.772 20 = 2	
0.465 00 = 3		32.2917 = 3		3.5880 = 3		7.4132 = 3		1.158 31 = 3	
0.620 00 = 4		43.0556 = 4		4.7840 = 4		9.8842 = 4		1.544 41 = 4	
0.775 00 = 5		53.8196 = 5		5.9800 = 5		12.3553 = 5		1.930 51 = 5	
0.930 00 = 6		64.5835 = 6		7.1759 = 6		14.8263 = 6		2.316 61 = 6	
1.085 00 = 7		75.3474 = 7		8.3719 = 7		17.2974 = 7		2.702 72 = 7	
1.240 00 = 8		86.1113 = 8		9.5679 = 8		19.7684 = 8		3.088 82 = 8	
1.395 00 = 9		96.8752 = 9		10.7639 = 9		22.2395 = 9		3.474 92 = 9	

7.3. VOLUME

Cubic yards (yd ³)	Cubic meters (m ³)	Cubic inches (in. ³)	Liters (liter)	Cubic inches (in. ³)	Cubic centimeters (cm ³)	Cubic feet (ft ³)	Cubic meters (m ³)	Cubic feet (ft ³)	Liters (liter)
1 = 0.764 55		1 = 0.016 387		1 = 16.387		1 = 0.028 317		1 = 28.316	
2 = 1.529 11		2 = 0.032 773		2 = 32.774		2 = 0.056 634		2 = 56.632	
3 = 2.293 66		3 = 0.049 160		3 = 49.161		3 = 0.084 951		3 = 84.948	
4 = 3.058 22		4 = 0.065 546		4 = 65.548		4 = 0.113 267		4 = 113.264	
5 = 3.822 77		5 = 0.081 933		5 = 81.935		5 = 0.141 584		5 = 141.580	
6 = 4.587 33		6 = 0.098 320		6 = 98.322		6 = 0.169 901		6 = 169.896	
7 = 5.351 88		7 = 0.114 706		7 = 114.709		7 = 0.198 218		7 = 198.212	
8 = 6.116 44		8 = 0.131 093		8 = 131.097		8 = 0.226 535		8 = 226.528	
9 = 6.880 99		9 = 0.147 479		9 = 147.484		9 = 0.254 852		9 = 254.844	
1.3080 = 1		61.025 = 1		0.061 024 = 1		35.315 = 1		0.035 316 = 1	
2.6159 = 2		122.051 = 2		0.122 047 = 2		70.629 = 2		0.070 631 = 2	
3.9239 = 3		183.076 = 3		0.183 071 = 3		105.944 = 3		0.105 947 = 3	
5.2318 = 4		244.102 = 4		0.244 095 = 4		141.259 = 4		0.141 263 = 4	
6.5398 = 5		305.127 = 5		0.305 119 = 5		176.573 = 5		0.176 578 = 5	
7.8477 = 6		366.153 = 6		0.366 142 = 6		211.888 = 6		0.211 894 = 6	
9.1557 = 7		427.178 = 7		0.427 166 = 7		247.203 = 7		0.247 210 = 7	
10.4636 = 8		488.204 = 8		0.488 190 = 8		282.517 = 8		0.282 525 = 8	
11.7716 = 9		549.229 = 9		0.549 214 = 9		317.832 = 9		0.317 841 = 9	

7.4. CAPACITY—LIQUID MEASURE

U.S. fluid drams	Milliliters	U.S. fluid ounces	Milliliters	U.S. liquid pints	Liters	U.S. liquid quarts	Liters	U.S. gallons	Liters
(fl dr)	(ml)	(fl oz)	(ml)	(pt)	(liter)	(qt)	(liter)	(gal)	(liter)
1 = 3.697		1 = 29.57		1 = 0.4732		1 = 0.9463		1 = 3.785	
2 = 7.393		2 = 59.15		2 = 0.9463		2 = 1.8927		2 = 7.571	
3 = 11.090		3 = 88.72		3 = 1.4195		3 = 2.8390		3 = 11.356	
4 = 14.786		4 = 118.29		4 = 1.8927		4 = 3.7853		4 = 15.141	
5 = 18.483		5 = 147.86		5 = 2.3658		5 = 4.7316		5 = 18.927	
6 = 22.180		6 = 177.44		6 = 2.8390		6 = 5.6780		6 = 22.712	
7 = 25.876		7 = 207.01		7 = 3.3121		7 = 6.6243		7 = 26.497	
8 = 29.573		8 = 236.58		8 = 3.7853		8 = 7.5706		8 = 30.282	
9 = 33.269		9 = 266.15		9 = 4.2585		9 = 8.5169		9 = 34.068	
0.2705 = 1		0.033 81 = 1		2.113 = 1		1.0567 = 1		0.2642 = 1	
0.5410 = 2		0.067 63 = 2		4.227 = 2		2.1134 = 2		0.5284 = 2	
0.8116 = 3		0.101 44 = 3		6.340 = 3		3.1702 = 3		0.7925 = 3	
1.0821 = 4		0.135 26 = 4		8.454 = 4		4.2269 = 4		1.0567 = 4	
1.3526 = 5		0.169 07 = 5		10.567 = 5		5.2836 = 5		1.3209 = 5	
1.6231 = 6		0.202 89 = 6		12.681 = 6		6.3403 = 6		1.5851 = 6	
1.8936 = 7		0.236 70 = 7		14.794 = 7		7.3970 = 7		1.8493 = 7	
2.1642 = 8		0.270 52 = 8		16.907 = 8		8.4537 = 8		2.1134 = 8	
2.4347 = 9		0.304 33 = 9		19.021 = 9		9.5105 = 9		2.3776 = 9	

7.5. CAPACITY—DRY MEASURE

U.S. dry quarts	Liters	U.S. pecks	Liters	U.S. pecks	Dekaliters	U.S. bushels	Hecto- liters	U.S. bushels	Hecto- liters
(qt)	(liter)	(pk)	(liter)	(pk)	(dkl)	(bu)	(hl)	per acre	per hectare
1 = 1.1012		1 = 8.810		1 = 0.8810		1 = 0.3524		1 = 0.8708	
2 = 2.2024		2 = 17.619		2 = 1.7619		2 = 0.7048		2 = 1.7415	
3 = 3.3036		3 = 26.429		3 = 2.6429		3 = 1.0571		3 = 2.6123	
4 = 4.4048		4 = 35.238		4 = 3.5238		4 = 1.4095		4 = 3.4830	
5 = 5.5060		5 = 44.048		5 = 4.4048		5 = 1.7619		5 = 4.3538	
6 = 6.6071		6 = 52.857		6 = 5.2857		6 = 2.1143		6 = 5.2245	
7 = 7.7083		7 = 61.667		7 = 6.1667		7 = 2.4667		7 = 6.0953	
8 = 8.8095		8 = 70.476		8 = 7.0476		8 = 2.8190		8 = 6.9660	
9 = 9.9107		9 = 79.286		9 = 7.9286		9 = 3.1714		9 = 7.8368	
0.9081 = 1		0.113 51 = 1		1.1351 = 1		2.838 = 1		1.1484 = 1	
1.8162 = 2		0.227 03 = 2		2.2703 = 2		5.676 = 2		2.2969 = 2	
2.7243 = 3		0.340 54 = 3		3.4054 = 3		8.514 = 3		3.4453 = 3	
3.6324 = 4		0.454 05 = 4		4.5405 = 4		11.351 = 4		4.5937 = 4	
4.5405 = 5		0.567 57 = 5		5.6757 = 5		14.189 = 5		5.7422 = 5	
5.4487 = 6		0.681 08 = 6		6.8108 = 6		17.027 = 6		6.8906 = 6	
6.3568 = 7		0.794 59 = 7		7.9460 = 7		19.865 = 7		8.0390 = 7	
7.2649 = 8		0.908 11 = 8		9.0811 = 8		22.703 = 8		9.1875 = 8	
8.1730 = 9		1.021 62 = 9		10.2162 = 9		25.541 = 9		10.3359 = 9	

7.6. MASS

Grains	Grams	Apothe- caries drams	Grams	Troy ounces	Grams	Avoird- upois ounces	Grams	Avoird- upois pounds	Kilo- grams
(grain)	(g)	(dr ap or ℥)	(g)	(oz t)	(g)	(oz avdp)	(g)	(lb avdp)	(kg)
1 = 0.064 7989		1 = 3.887 93		1 = 31.1035		1 = 28.3495		1 = 0.453 592	
2 = 0.129 5978		2 = 7.775 87		2 = 62.2070		2 = 56.6990		2 = 0.907 185	
3 = 0.194 3967		3 = 11.663 80		3 = 93.3104		3 = 85.0486		3 = 1.360 777	
4 = 0.259 1956		4 = 15.551 74		4 = 124.4139		4 = 113.3981		4 = 1.814 369	
5 = 0.323 9946		5 = 19.439 67		5 = 155.5174		5 = 141.7476		5 = 2.267 962	
6 = 0.388 7935		6 = 23.327 61		6 = 186.6209		6 = 170.0971		6 = 2.721 554	
7 = 0.453 5924		7 = 27.215 54		7 = 217.7243		7 = 198.4467		7 = 3.175 147	
8 = 0.518 3913		8 = 31.103 48		8 = 248.8278		8 = 226.7962		8 = 3.628 739	
9 = 0.583 1902		9 = 34.991 41		9 = 279.9313		9 = 255.1457		9 = 4.082 331	
15.4324 = 1		0.257 206 = 1		0.032 1507 = 1		0.035 2740 = 1		2.204 62 = 1	
30.8647 = 2		0.514 412 = 2		0.064 3015 = 2		0.070 5479 = 2		4.409 25 = 2	
46.2971 = 3		0.771 618 = 3		0.096 4522 = 3		0.105 8219 = 3		6.613 87 = 3	
61.7294 = 4		1.028 824 = 4		0.128 6030 = 4		0.141 0958 = 4		8.818 49 = 4	
77.1618 = 5		1.286 030 = 5		0.160 7537 = 5		0.176 3698 = 5		11.023 11 = 5	
92.5941 = 6		1.543 236 = 6		0.192 9045 = 6		0.211 6438 = 6		13.227 74 = 6	
108.0265 = 7		1.800 442 = 7		0.225 0552 = 7		0.246 9177 = 7		15.432 36 = 7	
123.4589 = 8		2.057 648 = 8		0.257 2060 = 8		0.282 1917 = 8		17.636 98 = 8	
138.8912 = 9		2.314 854 = 9		0.289 3567 = 9		0.317 4657 = 9		19.841 60 = 9	

7.7. COMPARISON OF THE VARIOUS TONS AND POUNDS IN USE IN THE UNITED STATES (FROM 1 TO 9 UNITS)

Troy pounds	Avoirdupois pounds	Kilograms	Short tons	Long tons	Metric tons
1	0.822 86	0.373 24	0.000 411 43	0.000 367 35	0.000 373 24
2	1.645 71	0.746 48	0.000 822 86	0.000 734 69	0.000 746 48
3	2.468 57	1.119 73	0.001 234 29	0.001 102 04	0.001 119 73
4	3.291 43	1.492 97	0.001 645 71	0.001 469 39	0.001 492 97
5	4.114 29	1.866 21	0.002 057 14	0.001 836 73	0.001 866 21
6	4.937 14	2.239 45	0.002 468 57	0.002 204 08	0.002 239 45
7	5.760 00	2.612 69	0.002 880 00	0.002 571 43	0.002 612 69
8	6.582 86	2.985 93	0.003 291 43	0.002 938 78	0.002 985 93
9	7.405 71	3.359 18	0.003 702 86	0.003 306 12	0.003 359 18
1.215 28	1	0.453 59	0.0005	0.000 446 43	0.000 453 59
2.430 56	2	0.907 18	0.0010	0.000 892 86	0.000 907 18
3.645 83	3	1.360 78	0.0015	0.001 339 29	0.001 360 78
4.861 11	4	1.814 37	0.0020	0.001 785 71	0.001 814 37
6.076 39	5	2.267 96	0.0025	0.002 232 14	0.002 267 96
7.291 67	6	2.721 55	0.0030	0.002 678 57	0.002 721 55
8.506 94	7	3.175 15	0.0035	0.003 125 00	0.003 175 15
9.722 22	8	3.628 74	0.0040	0.003 571 43	0.003 628 74
10.937 50	9	4.082 33	0.0045	0.004 017 86	0.004 082 33
2.679 23	2.204 62	1	0.001 102 31	0.000 984 21	0.001
5.358 46	4.409 25	2	0.002 204 62	0.001 968 41	0.002
8.037 69	6.613 87	3	0.003 306 93	0.002 952 62	0.003
10.716 92	8.818 49	4	0.004 409 25	0.003 936 83	0.004
13.396 14	11.023 11	5	0.005 511 56	0.004 921 03	0.005
16.075 37	13.227 74	6	0.006 613 87	0.005 905 24	0.006
18.754 60	15.432 36	7	0.007 716 18	0.006 889 45	0.007
21.433 83	17.636 98	8	0.008 818 49	0.007 873 65	0.008
24.113 06	19.841 60	9	0.009 920 80	0.008 857 86	0.009
2 430.56	2 000	907.18	1	0.892 86	0.907 18
4 861.11	4 000	1 814.37	2	1.785 71	1.814 37
7 291.67	6 000	2 721.55	3	2.678 57	2.721 55
9 722.22	8 000	3 628.74	4	3.571 43	3.628 74
12 152.78	10 000	4 535.92	5	4.464 29	4.535 92
14 583.33	12 000	5 443.11	6	5.357 14	5.443 11
17 013.89	14 000	6 350.29	7	6.250 00	6 350.29
19 444.44	16 000	7 257.48	8	7.142 86	7.257 48
21 875.00	18 000	8 164.66	9	8.035 71	8.164 66
2 722.22	2 240	1 016.05	1.12	1	1.016 05
5 444.44	4 480	2 032.09	2.24	2	2.032 09
8 166.67	6 720	3 048.14	3.36	3	3.048 14
10 888.89	8 960	4 064.19	4.48	4	4.064 19
13 611.11	11 200	5 080.23	5.60	5	5.080 23
16 333.33	13 440	6 096.28	6.72	6	6 096.28
19 055.56	15 680	7 112.33	7.84	7	7.112 33
21 777.78	17 920	8 128.38	8.96	8	8.128 38
24 500.00	20 160	9 144.42	10.08	9	9.144 42
2 679.23	2 204.62	1 000	1.102 31	0.984 21	1
5 358.46	4 409.25	2 000	2.204 62	1.968 41	2
8 037.69	6 613.87	3 000	3 306.93	2.952 62	3
10 716.92	8 818.49	4 000	4.409 25	3.936 83	4
13 396.14	11 023.11	5 000	5.511 56	4.921 03	5
16 075.37	13 227.74	6 000	6.613 87	5 905.24	6
18 754.60	15 432.36	7 000	7.716 18	6.889 45	7
21 433.83	17 636.98	8 000	8 818.49	7 873.65	8
24 113.06	19 841.60	9 000	9.920 80	8.857 86	9

8. SPECIAL TABLES

8.1. LENGTH—INCHES AND MILLIMETERS—EQUIVALENTS OF DECIMAL AND BINARY FRACTIONS OF AN INCH IN MILLIMETERS

From 1/64 to 1 Inch

½'s	¼'s	8ths	16ths	32ds	64ths	Milli- meters	Decimals of an inch	Inch	½'s	¼'s	8ths	16ths	32ds	64ths	Milli- meters	Decimals of an inch	
				1	1	= 0.397	0.015625							33	=13.097	0.515625	
				2	2	= .794	.03125						17	34	=13.494	.53125	
			1	3	3	= 1.191	.046875							35	=13.891	.546875	
				4	4	= 1.588	.0625					9	18	36	=14.288	.5625	
					5	= 1.984	.078125							37	=14.684	.578125	
				3	6	= 2.381	.09375						19	38	=15.081	.59375	
				7	7	= 2.778	.109375							39	=15.478	.609375	
		1	2	4	8	= 3.175	.1250				5	10	20	40	=15.875	.625	
					9	= 3.572	.140625							41	=16.272	.640625	
				5	10	= 3.969	.15625						21	42	=16.669	.65625	
				11	11	= 4.366	.171875						11	22	43	=17.066	.671875
			3	6	12	= 4.762	.1875							44	=17.462	.6875	
					13	= 5.159	.203125							45	=17.859	.703125	
				7	14	= 5.556	.21875						23	46	=18.256	.71875	
				15	15	= 5.953	.234375							47	=18.653	.734375	
	1	2	4	8	16	= 6.350	.2500			3	6	12	24	48	=19.050	.75	
					17	= 6.747	.265625							49	=19.447	.765625	
					18	= 7.144	.28125						25	50	=19.844	.78125	
					19	= 7.541	.296875							51	=20.241	.796875	
			5	10	20	= 7.938	.3125					13	26	52	=20.638	.8125	
					21	= 8.334	.328125							53	=21.034	.828125	
					22	= 8.731	.34375						27	54	=21.431	.84375	
			3	6	12	= 9.128	.359375					7	14	28	55	=21.828	.859375
					24	= 9.525	.3750							56	=22.225	.875	
					25	= 9.922	.390625							57	=22.622	.890625	
				13	26	=10.319	.40625						29	58	=23.019	.90625	
				27	27	=10.716	.421875							59	=23.416	.921875	
			7	14	28	=11.112	.4375					15	30	60	=23.812	.9375	
					29	=11.509	.453125							61	=24.209	.953125	
					30	=11.906	.46875						31	62	=24.606	.96875	
					31	=12.303	.484375							63	=25.003	.984375	
1	2	4	8	16	32	=12.700	.5	1	2	4	8	16	32	64	=25.400	1.000	

8.2. LENGTH—HUNDREDTHS OF AN INCH TO MILLIMETERS

From 1 to 99 Hundredths

Hun- dredths of an inch	0	1	2	3	4	5	6	7	8	9
10	0	0.254	0.508	0.762	1.016	1.270	1.524	1.778	2.032	2.286
20	2.540	2.794	3.048	3.302	3.556	3.810	4.064	4.318	4.572	4.826
30	5.080	5.334	5.588	5.842	6.096	6.350	6.604	6.858	7.112	7.366
40	7.620	7.874	8.128	8.382	8.636	8.890	9.144	9.398	9.652	9.906
	10.160	10.414	10.668	10.922	11.176	11.430	11.684	11.938	12.192	12.446
50	12.700	12.954	13.208	13.462	13.716	13.970	14.224	14.478	14.732	14.986
60	15.240	15.494	15.748	16.002	16.256	16.510	16.764	17.018	17.272	17.526
70	17.780	18.034	18.288	18.542	18.796	19.050	19.304	19.558	19.812	20.066
80	20.320	20.574	20.828	21.082	21.336	21.590	21.844	22.098	22.352	22.606
90	22.860	23.114	23.368	23.622	23.876	24.130	24.384	24.638	24.892	25.146

8.3. LENGTH—MILLIMETERS TO DECIMALS OF AN INCH

From 1 to 99 Units

Milli- meters	0	1	2	3	4	5	6	7	8	9
	0	0.03937	0.07874	0.11811	0.15748	0.19685	0.23622	0.27559	0.31496	0.35433
10	0.39370	0.43307	0.47244	0.51181	0.55118	0.59055	0.62992	0.66929	0.70866	0.74803
20	0.78740	0.82677	0.86614	0.90551	0.94488	0.98425	1.02362	1.06299	1.10236	1.14173
30	1.18110	1.22047	1.25984	1.29921	1.33858	1.37795	1.41732	1.45669	1.49606	1.53543
40	1.57480	1.61417	1.65354	1.69291	1.73228	1.77165	1.81102	1.85039	1.88976	1.92913
50	1.96850	2.00787	2.04724	2.08661	2.12598	2.16535	2.20472	2.24409	2.28346	2.32283
60	2.36220	2.40157	2.44094	2.48031	2.51968	2.55905	2.59842	2.63779	2.67716	2.71653
70	2.75590	2.79527	2.83464	2.87401	2.91338	2.95275	2.99212	3.03149	3.07086	3.11023
80	3.14960	3.18897	3.22834	3.26771	3.30708	3.34645	3.38582	3.42519	3.46456	3.50393
90	3.54330	3.58267	3.62204	3.66141	3.70078	3.74015	3.77952	3.81889	3.85826	3.89763

8.4. LENGTH—INTERNATIONAL NAUTICAL MILES AND KILOMETERS

Basic relation: International nautical mile = 1.852 kilometers.

Int. nautical miles	Kilometers	Int. nautical miles	Kilometers	Kilometers	Int. nautical miles	Kilometers	Int. nautical miles
0		50	92.600	0		50	26.9978
1	1.852	1	94.452	1	0.5400	1	27.5378
2	3.704	2	96.304	2	1.0799	2	28.0778
3	5.556	3	98.156	3	1.6199	3	28.6177
4	7.408	4	100.008	4	2.1598	4	29.1577
5	9.260	5	101.860	5	2.6998	5	29.6976
6	11.112	6	103.712	6	3.2397	6	30.2376
7	12.964	7	105.564	7	3.7797	7	30.7775
8	14.816	8	107.416	8	4.3197	8	31.3175
9	16.668	9	109.268	9	4.8596	9	31.8575
10	18.520	60	111.120	10	5.3996	60	32.3974
1	20.372	1	112.972	1	5.9395	1	32.9374
2	22.224	2	114.824	2	6.4795	2	33.4773
3	24.076	3	116.676	3	7.0194	3	34.0173
4	25.928	4	118.528	4	7.5594	4	34.5572
5	27.780	5	120.380	5	8.0994	5	35.0972
6	29.632	6	122.232	6	8.6393	6	35.6371
7	31.484	7	124.084	7	9.1793	7	36.1771
8	33.336	8	125.936	8	9.7192	8	36.7171
9	35.188	9	127.788	9	10.2592	9	37.2570
20	37.040	70	129.640	20	10.7991	70	37.7970
1	38.892	1	131.492	1	11.3391	1	38.3369
2	40.744	2	133.344	2	11.8790	2	38.8769
3	42.596	3	135.196	3	12.4190	3	39.4168
4	44.448	4	137.048	4	12.9590	4	39.9568
5	46.300	5	138.900	5	13.4989	5	40.4968
6	48.152	6	140.752	6	14.0389	6	41.0367
7	50.004	7	142.604	7	14.5788	7	41.5767
8	51.856	8	144.456	8	15.1188	8	42.1166
9	53.708	9	146.308	9	15.6587	9	42.6566
30	55.560	80	148.160	30	16.1987	80	43.1965
1	57.412	1	150.012	1	16.7387	1	43.7365
2	59.264	2	151.864	2	17.2786	2	44.2765
3	61.116	3	153.716	3	17.8186	3	44.8164
4	62.968	4	155.568	4	18.3585	4	45.3564
5	64.820	5	157.420	5	18.8985	5	45.8963
6	66.672	6	159.272	6	19.4384	6	46.4363
7	68.524	7	161.124	7	19.9784	7	46.9762
8	70.376	8	162.976	8	20.5184	8	47.5162
9	72.228	9	164.828	9	21.0583	9	48.0562
40	74.080	90	166.680	40	21.5983	90	48.5961
1	75.932	1	168.532	1	22.1382	1	49.1361
2	77.784	2	170.384	2	22.6782	2	49.6760
3	79.636	3	172.236	3	23.2181	3	50.2160
4	81.488	4	174.088	4	23.7581	4	50.7559
5	83.340	5	175.940	5	24.2981	5	51.2959
6	85.192	6	177.792	6	24.8380	6	51.8359
7	87.044	7	179.644	7	25.3780	7	52.3758
8	88.896	8	181.496	8	25.9179	8	52.9158
9	90.748	9	183.348	9	26.4579	9	53.4557
		100	185.200			100	53.9957

8.5. COMPOUND UNITS

Equivalents for compound units such as velocity, density, and pressure may be found from the tables of the basic units. In some cases the equivalents will be found directly in the tables of this publication, but in most cases a calculation will be necessary using two or more tables sometimes with other physical data such as 60 seconds = 1 minute. A few typical examples are shown below:

Velocity

$$1 \text{ foot per second} = 0.3048 \text{ meter per second}$$

$$1 \text{ foot per second} = \frac{0.3048}{60} \text{ meter per minute}$$

$$1 \text{ foot per minute} = 0.3048 \times 60 \text{ meters per second}$$

(see appropriate length conversion tables)

Acceleration

$$1 \text{ foot per second per second} = 0.3048 \text{ meter per second per second}$$

$$1 \text{ foot per second per second} = \frac{0.3048}{60 \times 60} \text{ meter per minute per minute}$$

$$1 \text{ foot per minute per minute} = 0.3048 \times 60 \times 60 \text{ meters per second per second}$$

(see appropriate length conversion tables)

Density

$$1 \text{ pound per cubic foot} = \frac{453.59237}{28316.846592} \text{ grams per cubic centimeter}$$

(see appropriate mass and volume conversion tables)

Mass (or Weight) per Unit Length

$$1 \text{ pound per yard} = \frac{0.45359237}{0.9144} \text{ kilogram per meter}$$

(see appropriate mass and length conversion tables)

Pressure

$$1 \text{ pound per square inch} = \frac{0.45359237}{6.4516} \text{ kilograms per square centimeter}$$

(see appropriate mass and area conversion tables)

8.6. LENGTH-INCHES TO MILLIMETERS

[Reduction Factor: 1 inch = 25.4 millimeters]

Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters
0.00	0.254	1.00	25.400	2.00	50.800	3.00	76.200	4.00	101.600	5.00	127.000	6.00	152.400	7.00	177.800	8.00	203.200	9.00	228.600				
.01	0.255	1.01	25.554	2.01	51.054	3.01	76.454	4.01	101.854	5.01	127.254	6.01	152.654	7.01	178.054	8.01	203.454	9.01	228.854				
.02	0.508	1.02	25.908	2.02	51.308	3.02	76.708	4.02	102.108	5.02	127.508	6.02	153.008	7.02	178.408	8.02	203.708	9.02	229.108				
.03	0.762	1.03	26.162	2.03	51.562	3.03	76.962	4.03	102.362	5.03	127.762	6.03	153.262	7.03	178.662	8.03	203.962	9.03	229.362				
.04	1.016	1.04	26.416	2.04	51.816	3.04	77.216	4.04	102.616	5.04	128.016	6.04	153.416	7.04	178.916	8.04	204.216	9.04	229.616				
.05	1.270	1.05	26.670	2.05	52.070	3.05	77.470	4.05	102.870	5.05	128.270	6.05	153.670	7.05	179.170	8.05	204.470	9.05	229.870				
.06	1.524	1.06	26.924	2.06	52.324	3.06	77.724	4.06	103.124	5.06	128.524	6.06	153.824	7.06	179.374	8.06	204.724	9.06	230.124				
.07	1.778	1.07	27.178	2.07	52.578	3.07	77.978	4.07	103.378	5.07	128.778	6.07	154.078	7.07	179.678	8.07	204.978	9.07	230.378				
.08	2.032	1.08	27.432	2.08	52.832	3.08	78.232	4.08	103.632	5.08	129.032	6.08	154.232	7.08	179.928	8.08	205.232	9.08	230.632				
.09	2.286	1.09	27.686	2.09	53.086	3.09	78.486	4.09	103.886	5.09	129.286	6.09	154.486	7.09	180.086	8.09	205.486	9.09	230.886				
0.10	2.540	1.10	27.940	2.10	53.340	3.10	78.740	4.10	104.140	5.10	129.540	6.10	154.740	7.10	180.340	8.10	205.740	9.10	231.140				
.11	2.794	1.11	28.194	2.11	53.594	3.11	78.994	4.11	104.394	5.11	129.794	6.11	155.044	7.11	180.594	8.11	205.994	9.11	231.394				
.12	3.048	1.12	28.448	2.12	53.848	3.12	79.248	4.12	104.648	5.12	130.048	6.12	155.294	7.12	180.848	8.12	206.248	9.12	231.648				
.13	3.302	1.13	28.702	2.13	54.102	3.13	79.502	4.13	104.902	5.13	130.302	6.13	155.544	7.13	181.048	8.13	206.494	9.13	231.894				
.14	3.556	1.14	28.956	2.14	54.356	3.14	79.756	4.14	105.156	5.14	130.556	6.14	155.794	7.14	181.294	8.14	206.744	9.14	232.144				
.15	3.810	1.15	29.210	2.15	54.610	3.15	80.010	4.15	105.410	5.15	130.810	6.15	156.044	7.15	181.544	8.15	207.044	9.15	232.394				
.16	4.064	1.16	29.464	2.16	54.864	3.16	80.264	4.16	105.664	5.16	131.064	6.16	156.294	7.16	181.794	8.16	207.294	9.16	232.644				
.17	4.318	1.17	29.718	2.17	55.118	3.17	80.518	4.17	105.918	5.17	131.318	6.17	156.544	7.17	182.044	8.17	207.544	9.17	232.894				
.18	4.572	1.18	29.972	2.18	55.372	3.18	80.772	4.18	106.172	5.18	131.572	6.18	156.794	7.18	182.294	8.18	207.794	9.18	233.144				
.19	4.826	1.19	30.226	2.19	55.626	3.19	81.026	4.19	106.426	5.19	131.826	6.19	157.044	7.19	182.544	8.19	208.044	9.19	233.394				
0.20	5.080	1.20	30.480	2.20	55.880	3.20	81.280	4.20	106.680	5.20	132.080	6.20	157.294	7.20	182.794	8.20	208.294	9.20	233.644				
.21	5.334	1.21	30.734	2.21	56.134	3.21	81.534	4.21	106.934	5.21	132.334	6.21	157.544	7.21	183.044	8.21	208.544	9.21	233.894				
.22	5.588	1.22	30.988	2.22	56.388	3.22	81.788	4.22	107.188	5.22	132.588	6.22	157.794	7.22	183.294	8.22	208.794	9.22	234.144				
.23	5.842	1.23	31.242	2.23	56.642	3.23	82.042	4.23	107.442	5.23	132.842	6.23	158.044	7.23	183.544	8.23	209.044	9.23	234.394				
.24	6.096	1.24	31.496	2.24	56.896	3.24	82.296	4.24	107.696	5.24	133.096	6.24	158.294	7.24	183.794	8.24	209.294	9.24	234.644				
.25	6.350	1.25	31.750	2.25	57.150	3.25	82.550	4.25	107.950	5.25	133.350	6.25	158.544	7.25	184.044	8.25	209.544	9.25	234.894				
.26	6.604	1.26	32.004	2.26	57.404	3.26	82.804	4.26	108.204	5.26	133.604	6.26	158.794	7.26	184.294	8.26	209.794	9.26	235.144				
.27	6.858	1.27	32.258	2.27	57.658	3.27	83.058	4.27	108.458	5.27	133.858	6.27	159.044	7.27	184.544	8.27	210.044	9.27	235.394				
.28	7.112	1.28	32.512	2.28	57.912	3.28	83.312	4.28	108.712	5.28	134.112	6.28	159.294	7.28	184.794	8.28	210.294	9.28	235.644				
.29	7.366	1.29	32.766	2.29	58.166	3.29	83.566	4.29	108.966	5.29	134.366	6.29	159.544	7.29	185.044	8.29	210.544	9.29	235.894				
0.30	7.620	1.30	33.020	2.30	58.420	3.30	83.820	4.30	109.220	5.30	134.620	6.30	160.000	7.30	185.294	8.30	210.820	9.30	236.144				
.31	7.874	1.31	33.274	2.31	58.674	3.31	84.074	4.31	109.474	5.31	134.874	6.31	160.254	7.31	185.544	8.31	211.074	9.31	236.394				
.32	8.128	1.32	33.528	2.32	58.928	3.32	84.328	4.32	109.728	5.32	135.128	6.32	160.508	7.32	185.794	8.32	211.328	9.32	236.644				
.33	8.382	1.33	33.782	2.33	59.182	3.33	84.582	4.33	109.982	5.33	135.382	6.33	160.762	7.33	186.044	8.33	211.582	9.33	236.894				
.34	8.636	1.34	34.036	2.34	59.436	3.34	84.836	4.34	110.236	5.34	135.636	6.34	161.016	7.34	186.294	8.34	211.836	9.34	237.144				
.35	8.890	1.35	34.290	2.35	59.690	3.35	85.090	4.35	110.490	5.35	135.890	6.35	161.270	7.35	186.544	8.35	212.090	9.35	237.394				
.36	9.144	1.36	34.544	2.36	59.944	3.36	85.344	4.36	110.744	5.36	136.144	6.36	161.524	7.36	186.794	8.36	212.344	9.36	237.644				
.37	9.398	1.37	34.798	2.37	60.198	3.37	85.598	4.37	110.998	5.37	136.398	6.37	161.778	7.37	187.044	8.37	212.598	9.37	237.894				
.38	9.652	1.38	35.052	2.38	60.452	3.38	85.852	4.38	111.252	5.38	136.652	6.38	162.032	7.38	187.294	8.38	212.852	9.38	238.144				
.39	9.906	1.39	35.306	2.39	60.706	3.39	86.106	4.39	111.506	5.39	136.906	6.39	162.286	7.39	187.544	8.39	213.106	9.39	238.394				
0.40	10.160	1.40	35.560	2.40	60.960	3.40	86.360	4.40	111.760	5.40	137.160	6.40	162.540	7.40	187.794	8.40	213.360	9.40	238.644				
.41	10.414	1.41	35.814	2.41	61.214	3.41	86.614	4.41	112.014	5.41	137.414	6.41	162.794	7.41	188.044	8.41	213.614	9.41	238.894				
.42	10.668	1.42	36.068	2.42	61.468	3.42	86.868	4.42	112.268	5.42	137.668	6.42	163.048	7.42	188.294	8.42	213.868	9.42	239.144				
.43	10.922	1.43	36.322	2.43	61.722	3.43	87.122	4.43	112.522	5.43	137.922	6.43	163.302	7.43	188.544	8.43	214.122	9.43	239.394				
.44	11.176	1.44	36.576	2.44	61.976	3.44	87.376	4.44	112.776	5.44	138.176	6.44	163.556	7.44	188.794	8.44	214.376	9.44	239.644				
.45	11.430	1.45	36.830	2.45	62.230	3.45	87.630	4.45	113.030	5.45	138.430	6.45	163.810	7.45	189.044	8.45	214.630	9.45	239.894				
.46	11.684	1.46	37.084	2.46	62.484	3.46	87.884	4.46	113.284	5.46	138.684	6.46	164.064	7.46	189.294	8.46	214.884	9.46	240.144				
.47	11.938	1.47	37.338	2.47	62.738	3.47	88.138	4.47	113.538	5.47	138.938	6.47	164.318	7.47	189.544	8.47	215.138	9.47	240.394				
.48	12.192	1.48	37.592	2.48	62.992	3.48	88.392	4.48	113.792	5.48	139.192	6.48	164.572	7.48	189.794	8.48	215.392	9.48	240.644				
.49	12.446	1.49	37.846	2.49	63.246	3.49	88.646	4.49	114.046	5.49	139.446	6.49	164.826	7.49	190.044	8.49	215.646	9.49	240.894				

0.50	1.50	2.50	3.50	4.50	5.50	6.50	7.50	8.50	9.50	241.300
0.51	1.51	2.51	3.51	4.51	5.51	6.51	7.51	8.51	9.51	241.554
0.52	1.52	2.52	3.52	4.52	5.52	6.52	7.52	8.52	9.52	241.808
0.53	1.53	2.53	3.53	4.53	5.53	6.53	7.53	8.53	9.53	242.062
0.54	1.54	2.54	3.54	4.54	5.54	6.54	7.54	8.54	9.54	242.316
0.55	1.55	2.55	3.55	4.55	5.55	6.55	7.55	8.55	9.55	242.570
0.56	1.56	2.56	3.56	4.56	5.56	6.56	7.56	8.56	9.56	242.824
0.57	1.57	2.57	3.57	4.57	5.57	6.57	7.57	8.57	9.57	243.078
0.58	1.58	2.58	3.58	4.58	5.58	6.58	7.58	8.58	9.58	243.332
0.59	1.59	2.59	3.59	4.59	5.59	6.59	7.59	8.59	9.59	243.586
0.60	1.60	2.60	3.60	4.60	5.60	6.60	7.60	8.60	9.60	243.840
0.61	1.61	2.61	3.61	4.61	5.61	6.61	7.61	8.61	9.61	244.094
0.62	1.62	2.62	3.62	4.62	5.62	6.62	7.62	8.62	9.62	244.348
0.63	1.63	2.63	3.63	4.63	5.63	6.63	7.63	8.63	9.63	244.602
0.64	1.64	2.64	3.64	4.64	5.64	6.64	7.64	8.64	9.64	244.856
0.65	1.65	2.65	3.65	4.65	5.65	6.65	7.65	8.65	9.65	245.110
0.66	1.66	2.66	3.66	4.66	5.66	6.66	7.66	8.66	9.66	245.364
0.67	1.67	2.67	3.67	4.67	5.67	6.67	7.67	8.67	9.67	245.618
0.68	1.68	2.68	3.68	4.68	5.68	6.68	7.68	8.68	9.68	245.872
0.69	1.69	2.69	3.69	4.69	5.69	6.69	7.69	8.69	9.69	246.126
0.70	1.70	2.70	3.70	4.70	5.70	6.70	7.70	8.70	9.70	246.380
0.71	1.71	2.71	3.71	4.71	5.71	6.71	7.71	8.71	9.71	246.634
0.72	1.72	2.72	3.72	4.72	5.72	6.72	7.72	8.72	9.72	246.888
0.73	1.73	2.73	3.73	4.73	5.73	6.73	7.73	8.73	9.73	247.142
0.74	1.74	2.74	3.74	4.74	5.74	6.74	7.74	8.74	9.74	247.396
0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	247.650
0.76	1.76	2.76	3.76	4.76	5.76	6.76	7.76	8.76	9.76	247.904
0.77	1.77	2.77	3.77	4.77	5.77	6.77	7.77	8.77	9.77	248.158
0.78	1.78	2.78	3.78	4.78	5.78	6.78	7.78	8.78	9.78	248.412
0.79	1.79	2.79	3.79	4.79	5.79	6.79	7.79	8.79	9.79	248.666
0.80	1.80	2.80	3.80	4.80	5.80	6.80	7.80	8.80	9.80	248.920
0.81	1.81	2.81	3.81	4.81	5.81	6.81	7.81	8.81	9.81	249.174
0.82	1.82	2.82	3.82	4.82	5.82	6.82	7.82	8.82	9.82	249.428
0.83	1.83	2.83	3.83	4.83	5.83	6.83	7.83	8.83	9.83	249.682
0.84	1.84	2.84	3.84	4.84	5.84	6.84	7.84	8.84	9.84	249.936
0.85	1.85	2.85	3.85	4.85	5.85	6.85	7.85	8.85	9.85	250.190
0.86	1.86	2.86	3.86	4.86	5.86	6.86	7.86	8.86	9.86	250.444
0.87	1.87	2.87	3.87	4.87	5.87	6.87	7.87	8.87	9.87	250.698
0.88	1.88	2.88	3.88	4.88	5.88	6.88	7.88	8.88	9.88	250.952
0.89	1.89	2.89	3.89	4.89	5.89	6.89	7.89	8.89	9.89	251.206
0.90	1.90	2.90	3.90	4.90	5.90	6.90	7.90	8.90	9.90	251.460
0.91	1.91	2.91	3.91	4.91	5.91	6.91	7.91	8.91	9.91	251.714
0.92	1.92	2.92	3.92	4.92	5.92	6.92	7.92	8.92	9.92	251.968
0.93	1.93	2.93	3.93	4.93	5.93	6.93	7.93	8.93	9.93	252.222
0.94	1.94	2.94	3.94	4.94	5.94	6.94	7.94	8.94	9.94	252.476
0.95	1.95	2.95	3.95	4.95	5.95	6.95	7.95	8.95	9.95	252.730
0.96	1.96	2.96	3.96	4.96	5.96	6.96	7.96	8.96	9.96	252.984
0.97	1.97	2.97	3.97	4.97	5.97	6.97	7.97	8.97	9.97	253.238
0.98	1.98	2.98	3.98	4.98	5.98	6.98	7.98	8.98	9.98	253.492
0.99	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	253.746

10.50	266.700	11.50	292.100	12.50	317.500	13.50	342.900	14.50	368.300	15.50	393.700	16.50	419.100	17.50	444.500	18.50	469.900	19.50	495.300
10.51	266.954	11.51	292.354	12.51	317.754	13.51	343.154	14.51	368.554	15.51	393.954	16.51	419.354	17.51	444.754	18.51	470.154	19.51	495.554
10.52	267.208	11.52	292.608	12.52	318.008	13.52	343.408	14.52	368.808	15.52	394.208	16.52	419.608	17.52	445.008	18.52	470.408	19.52	495.808
10.53	267.462	11.53	292.862	12.53	318.262	13.53	343.662	14.53	369.062	15.53	394.462	16.53	419.862	17.53	445.262	18.53	470.662	19.53	496.062
10.54	267.716	11.54	293.116	12.54	318.516	13.54	343.916	14.54	369.316	15.54	394.716	16.54	420.116	17.54	445.516	18.54	470.916	19.54	496.316
10.55	267.970	11.55	293.370	12.55	318.770	13.55	344.170	14.55	369.570	15.55	394.970	16.55	420.370	17.55	445.770	18.55	471.170	19.55	496.570
10.56	268.224	11.56	293.624	12.56	319.024	13.56	344.424	14.56	369.824	15.56	395.224	16.56	420.624	17.56	446.024	18.56	471.424	19.56	496.824
10.57	268.478	11.57	293.878	12.57	319.278	13.57	344.678	14.57	370.078	15.57	395.478	16.57	420.878	17.57	446.278	18.57	471.678	19.57	497.078
10.58	268.732	11.58	294.132	12.58	319.532	13.58	344.932	14.58	370.332	15.58	395.732	16.58	421.032	17.58	446.532	18.58	471.932	19.58	497.332
10.59	268.986	11.59	294.386	12.59	319.786	13.59	345.186	14.59	370.586	15.59	395.986	16.59	421.286	17.59	446.786	18.59	472.186	19.59	497.586
10.60	269.240	11.60	294.640	12.60	320.040	13.60	345.440	14.60	370.840	15.60	396.240	16.60	421.480	17.60	447.040	18.60	472.440	19.60	497.840
10.61	269.494	11.61	294.894	12.61	320.294	13.61	345.694	14.61	371.094	15.61	396.494	16.61	421.684	17.61	447.294	18.61	472.694	19.61	498.094
10.62	269.748	11.62	295.148	12.62	320.548	13.62	345.948	14.62	371.348	15.62	396.748	16.62	421.878	17.62	447.548	18.62	472.948	19.62	498.348
10.63	270.002	11.63	295.402	12.63	320.802	13.63	346.202	14.63	371.602	15.63	397.002	16.63	422.072	17.63	447.802	18.63	473.202	19.63	498.602
10.64	270.256	11.64	295.656	12.64	321.056	13.64	346.456	14.64	371.856	15.64	397.256	16.64	422.266	17.64	448.056	18.64	473.456	19.64	498.856
10.65	270.510	11.65	295.910	12.65	321.310	13.65	346.710	14.65	372.110	15.65	397.510	16.65	422.456	17.65	448.310	18.65	473.710	19.65	499.110
10.66	270.764	11.66	296.164	12.66	321.564	13.66	346.964	14.66	372.364	15.66	397.764	16.66	422.646	17.66	448.564	18.66	473.964	19.66	499.364
10.67	271.018	11.67	296.418	12.67	321.818	13.67	347.218	14.67	372.618	15.67	398.018	16.67	422.836	17.67	448.818	18.67	474.218	19.67	499.618
10.68	271.272	11.68	296.672	12.68	322.072	13.68	347.472	14.68	372.872	15.68	398.272	16.68	423.026	17.68	449.072	18.68	474.472	19.68	499.872
10.69	271.526	11.69	296.926	12.69	322.326	13.69	347.726	14.69	373.126	15.69	398.526	16.69	423.216	17.69	449.326	18.69	474.726	19.69	500.126
10.70	271.780	11.70	297.180	12.70	322.580	13.70	347.980	14.70	373.380	15.70	398.780	16.70	423.406	17.70	449.580	18.70	474.980	19.70	500.380
10.71	272.034	11.71	297.434	12.71	322.834	13.71	348.234	14.71	373.634	15.71	399.034	16.71	423.594	17.71	449.834	18.71	475.234	19.71	500.634
10.72	272.288	11.72	297.688	12.72	323.088	13.72	348.488	14.72	373.888	15.72	399.288	16.72	423.784	17.72	450.088	18.72	475.488	19.72	500.888
10.73	272.542	11.73	297.942	12.73	323.342	13.73	348.742	14.73	374.142	15.73	399.542	16.73	423.974	17.73	450.342	18.73	475.742	19.73	501.142
10.74	272.796	11.74	298.196	12.74	323.596	13.74	348.996	14.74	374.396	15.74	399.796	16.74	424.166	17.74	450.596	18.74	475.996	19.74	501.396
10.75	273.050	11.75	298.450	12.75	323.850	13.75	349.250	14.75	374.650	15.75	400.050	16.75	424.356	17.75	450.850	18.75	476.250	19.75	501.650
10.76	273.304	11.76	298.704	12.76	324.104	13.76	349.504	14.76	374.904	15.76	400.304	16.76	424.546	17.76	451.104	18.76	476.504	19.76	501.904
10.77	273.558	11.77	298.958	12.77	324.358	13.77	349.758	14.77	375.158	15.77	400.558	16.77	424.736	17.77	451.358	18.77	476.758	19.77	502.158
10.78	273.812	11.78	299.212	12.78	324.612	13.78	350.012	14.78	375.412	15.78	400.812	16.78	424.926	17.78	451.612	18.78	477.012	19.78	502.412
10.79	274.066	11.79	299.466	12.79	324.866	13.79	350.266	14.79	375.666	15.79	401.066	16.79	425.116	17.79	451.866	18.79	477.266	19.79	502.666
10.80	274.320	11.80	299.720	12.80	325.120	13.80	350.520	14.80	375.920	15.80	401.320	16.80	425.306	17.80	452.120	18.80	477.520	19.80	502.920
10.81	274.574	11.81	299.974	12.81	325.374	13.81	350.774	14.81	376.174	15.81	401.574	16.81	425.494	17.81	452.374	18.81	477.774	19.81	503.174
10.82	274.828	11.82	300.228	12.82	325.628	13.82	351.028	14.82	376.428	15.82	401.828	16.82	425.684	17.82	452.628	18.82	478.028	19.82	503.428
10.83	275.082	11.83	300.482	12.83	325.882	13.83	351.282	14.83	376.682	15.83	402.082	16.83	425.874	17.83	452.874	18.83	478.282	19.83	503.682
10.84	275.336	11.84	300.736	12.84	326.136	13.84	351.536	14.84	376.936	15.84	402.336	16.84	426.066	17.84	453.136	18.84	478.536	19.84	503.936
10.85	275.590	11.85	300.990	12.85	326.390	13.85	351.790	14.85	377.190	15.85	402.590	16.85	426.256	17.85	453.390	18.85	478.790	19.85	504.190
10.86	275.844	11.86	301.244	12.86	326.644	13.86	352.044	14.86	377.444	15.86	402.844	16.86	426.446	17.86	453.644	18.86	479.044	19.86	504.444
10.87	276.098	11.87	301.498	12.87	326.898	13.87	352.298	14.87	377.698	15.87	403.098	16.87	426.636	17.87	453.898	18.87	479.298	19.87	504.698
10.88	276.352	11.88	301.752	12.88	327.152	13.88	352.552	14.88	377.952	15.88	403.352	16.88	426.826	17.88	454.152	18.88	479.552	19.88	504.952
10.89	276.606	11.89	302.006	12.89	327.406	13.89	352.806	14.89	378.206	15.89	403.606	16.89	427.016	17.89	454.406	18.89	479.806	19.89	505.206
10.90	276.860	11.90	302.260	12.90	327.660	13.90	353.060	14.90	378.460	15.90	403.860	16.90	427.206	17.90	454.660	18.90	480.060	19.90	505.460
10.91	277.114	11.91	302.514	12.91	327.914	13.91	353.314	14.91	378.714	15.91	404.114	16.91	427.396	17.91	454.914	18.91	480.314	19.91	505.714
10.92	277.368	11.92	302.768	12.92	328.168	13.92	353.568	14.92	378.968	15.92	404.368	16.92	427.586	17.92	455.168	18.92	480.568	19.92	505.968
10.93	277.622	11.93	303.022	12.93	328.422	13.93	353.822	14.93	379.222	15.93	404.622	16.93	427.776	17.93	455.422	18.93	480.822	19.93	506.222
10.94	277.876	11.94	303.276	12.94	328.676	13.94	354.076	14.94	379.476	15.94	404.876	16.94	427.966	17.94	455.676	18.94	481.076	19.94	506.476
10.95	278.130	11.95	303.530	12.95	328.930	13.95	354.330	14.95	379.730	15.95	405.130	16.95	428.156	17.95	455.930	18.95	481.330	19.95	506.730
10.96	278.384	11.96	303.784	12.96	329.184	13.96	354.584	14.96	379.984	15.96	405.384	16.96	428.346	17.96	456.184	18.96	481.584	19.96	506.984
10.97	278.638	11.97	304.038	12.97	329.438	13.97	354.838	14.97	380.238	15.97	405.638	16.97	428.536	17.97	456.438	18.97	481.838	19.97	507.238
10.98	278.892	11.98	304.292	12.98	329.692	13.98	355.092	14.98	380.492	15.98	405.892	16.98	428.726	17.98	456.692	18.98	482.092	19.98	507.492
10.99	279.146	11.99	304.546	12.99	329.946	13.99	355.346	14.99	380.746	15.99	406.146	16.99	428.916	17.99	456.946	18.99	482.346	19.99	507.746

8.7. LENGTH—MILLIMETERS TO INCHES [Reduction Factor: 1 millimeter = 0.039 370 08 inch]

Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches
0.00	0.0003937	1.00	0.03937	2.00	0.07874	3.00	0.11811	4.00	0.15748	5.00	0.19685	6.00	0.23622	7.00	0.27559	8.00	0.31496	9.00	0.35433	10.00	0.39370
0.01	0.0007874	1.01	0.03976	2.01	0.07913	3.01	0.11850	4.01	0.15785	5.01	0.19724	6.01	0.23661	7.01	0.27598	8.01	0.31535	9.01	0.35472	10.01	0.39409
0.02	0.0015748	1.02	0.04016	2.02	0.07953	3.02	0.11889	4.02	0.15827	5.02	0.19764	6.02	0.23701	7.02	0.27638	8.02	0.31575	9.02	0.35512	10.02	0.39449
0.03	0.0018111	1.03	0.04055	2.03	0.07992	3.03	0.11929	4.03	0.15866	5.03	0.19803	6.03	0.23740	7.03	0.27677	8.03	0.31614	9.03	0.35551	10.03	0.39488
0.04	0.001575	1.04	0.04094	2.04	0.08031	3.04	0.11969	4.04	0.15906	5.04	0.19843	6.04	0.23780	7.04	0.27717	8.04	0.31654	9.04	0.35591	10.04	0.39527
0.05	0.001969	1.05	0.04134	2.05	0.08071	3.05	0.12008	4.05	0.15948	5.05	0.19882	6.05	0.23819	7.05	0.27756	8.05	0.31693	9.05	0.35630	10.05	0.39564
0.06	0.002362	1.06	0.04173	2.06	0.08110	3.06	0.12047	4.06	0.16004	5.06	0.19921	6.06	0.23859	7.06	0.27795	8.06	0.31732	9.06	0.35669	10.06	0.39601
0.07	0.002756	1.07	0.04213	2.07	0.08150	3.07	0.12087	4.07	0.16043	5.07	0.19961	6.07	0.23898	7.07	0.27835	8.07	0.31772	9.07	0.35709	10.07	0.39638
0.08	0.003150	1.08	0.04252	2.08	0.08189	3.08	0.12126	4.08	0.16083	5.08	0.20000	6.08	0.23937	7.08	0.27874	8.08	0.31811	9.08	0.35748	10.08	0.39677
0.09	0.003543	1.09	0.04291	2.09	0.08228	3.09	0.12165	4.09	0.16102	5.09	0.20039	6.09	0.23976	7.09	0.27913	8.09	0.31850	9.09	0.35787	10.09	0.39716
0.10	0.003937	1.10	0.04331	2.10	0.08268	3.10	0.12205	4.10	0.16142	5.10	0.20079	6.10	0.24016	7.10	0.27953	8.10	0.31890	9.10	0.35827	10.10	0.39755
0.11	0.004331	1.11	0.04370	2.11	0.08307	3.11	0.12244	4.11	0.16181	5.11	0.20118	6.11	0.24055	7.11	0.27992	8.11	0.31929	9.11	0.35866	10.11	0.39794
0.12	0.004724	1.12	0.04409	2.12	0.08346	3.12	0.12283	4.12	0.16220	5.12	0.20157	6.12	0.24104	7.12	0.28031	8.12	0.31969	9.12	0.35906	10.12	0.39833
0.13	0.005118	1.13	0.04449	2.13	0.08386	3.13	0.12323	4.13	0.16260	5.13	0.20197	6.13	0.24134	7.13	0.28071	8.13	0.32008	9.13	0.35945	10.13	0.39872
0.14	0.005512	1.14	0.04488	2.14	0.08425	3.14	0.12362	4.14	0.16299	5.14	0.20236	6.14	0.24173	7.14	0.28110	8.14	0.32047	9.14	0.35984	10.14	0.39909
0.15	0.005906	1.15	0.04528	2.15	0.08465	3.15	0.12402	4.15	0.16339	5.15	0.20276	6.15	0.24213	7.15	0.28150	8.15	0.32087	9.15	0.36024	10.15	0.39948
0.16	0.006299	1.16	0.04567	2.16	0.08504	3.16	0.12441	4.16	0.16378	5.16	0.20315	6.16	0.24252	7.16	0.28189	8.16	0.32126	9.16	0.36063	10.16	0.39987
0.17	0.006693	1.17	0.04606	2.17	0.08543	3.17	0.12480	4.17	0.16417	5.17	0.20354	6.17	0.24291	7.17	0.28228	8.17	0.32165	9.17	0.36102	10.17	0.40026
0.18	0.007087	1.18	0.04646	2.18	0.08583	3.18	0.12520	4.18	0.16457	5.18	0.20394	6.18	0.24331	7.18	0.28268	8.18	0.32205	9.18	0.36141	10.18	0.40065
0.19	0.007480	1.19	0.04685	2.19	0.08622	3.19	0.12559	4.19	0.16496	5.19	0.20433	6.19	0.24370	7.19	0.28307	8.19	0.32244	9.19	0.36181	10.19	0.40104
0.20	0.007874	1.20	0.04724	2.20	0.08661	3.20	0.12598	4.20	0.16535	5.20	0.20472	6.20	0.24409	7.20	0.28346	8.20	0.32283	9.20	0.36220	10.20	0.40143
0.21	0.008268	1.21	0.04764	2.21	0.08701	3.21	0.12638	4.21	0.16575	5.21	0.20512	6.21	0.24449	7.21	0.28386	8.21	0.32323	9.21	0.36260	10.21	0.40182
0.22	0.008661	1.22	0.04803	2.22	0.08740	3.22	0.12677	4.22	0.16614	5.22	0.20551	6.22	0.24488	7.22	0.28425	8.22	0.32362	9.22	0.36299	10.22	0.40221
0.23	0.009055	1.23	0.04843	2.23	0.08780	3.23	0.12717	4.23	0.16654	5.23	0.20591	6.23	0.24528	7.23	0.28465	8.23	0.32402	9.23	0.36339	10.23	0.40260
0.24	0.009449	1.24	0.04882	2.24	0.08819	3.24	0.12756	4.24	0.16693	5.24	0.20630	6.24	0.24567	7.24	0.28504	8.24	0.32441	9.24	0.36378	10.24	0.40299
0.25	0.009843	1.25	0.04921	2.25	0.08858	3.25	0.12795	4.25	0.16732	5.25	0.20669	6.25	0.24606	7.25	0.28543	8.25	0.32480	9.25	0.36417	10.25	0.40338
0.26	0.010236	1.26	0.04961	2.26	0.08898	3.26	0.12835	4.26	0.16772	5.26	0.20709	6.26	0.24646	7.26	0.28583	8.26	0.32520	9.26	0.36457	10.26	0.40377
0.27	0.010630	1.27	0.05000	2.27	0.08937	3.27	0.12874	4.27	0.16811	5.27	0.20748	6.27	0.24685	7.27	0.28622	8.27	0.32559	9.27	0.36496	10.27	0.40416
0.28	0.011024	1.28	0.05039	2.28	0.08976	3.28	0.12913	4.28	0.16850	5.28	0.20787	6.28	0.24724	7.28	0.28661	8.28	0.32598	9.28	0.36535	10.28	0.40455
0.29	0.011417	1.29	0.05079	2.29	0.09016	3.29	0.12953	4.29	0.16890	5.29	0.20827	6.29	0.24764	7.29	0.28701	8.29	0.32638	9.29	0.36575	10.29	0.40494
0.30	0.011811	1.30	0.05118	2.30	0.09055	3.30	0.12992	4.30	0.16929	5.30	0.20866	6.30	0.24803	7.30	0.28740	8.30	0.32677	9.30	0.36614	10.30	0.40533
0.31	0.012205	1.31	0.05157	2.31	0.09094	3.31	0.13031	4.31	0.16969	5.31	0.20906	6.31	0.24843	7.31	0.28780	8.31	0.32717	9.31	0.36654	10.31	0.40572
0.32	0.012599	1.32	0.05197	2.32	0.09133	3.32	0.13071	4.32	0.17008	5.32	0.20945	6.32	0.24882	7.32	0.28819	8.32	0.32756	9.32	0.36693	10.32	0.40611
0.33	0.012993	1.33	0.05236	2.33	0.09173	3.33	0.13110	4.33	0.17047	5.33	0.20984	6.33	0.24921	7.33	0.28858	8.33	0.32795	9.33	0.36732	10.33	0.40650
0.34	0.013386	1.34	0.05275	2.34	0.09212	3.34	0.13150	4.34	0.17087	5.34	0.21024	6.34	0.24961	7.34	0.28897	8.34	0.32835	9.34	0.36772	10.34	0.40689
0.35	0.013780	1.35	0.05315	2.35	0.09252	3.35	0.13189	4.35	0.17126	5.35	0.21063	6.35	0.25000	7.35	0.28936	8.35	0.32874	9.35	0.36811	10.35	0.40728
0.36	0.014173	1.36	0.05354	2.36	0.09291	3.36	0.13228	4.36	0.17165	5.36	0.21102	6.36	0.25039	7.36	0.28975	8.36	0.32913	9.36	0.36850	10.36	0.40767
0.37	0.014567	1.37	0.05394	2.37	0.09330	3.37	0.13268	4.37	0.17203	5.37	0.21141	6.37	0.25078	7.37	0.29016	8.37	0.32952	9.37	0.36889	10.37	0.40806
0.38	0.014961	1.38	0.05433	2.38	0.09370	3.38	0.13307	4.38	0.17242	5.38	0.21180	6.38	0.25118	7.38	0.29055	8.38	0.32993	9.38	0.36929	10.38	0.40845
0.39	0.015354	1.39	0.05472	2.39	0.09409	3.39	0.13346	4.39	0.17283	5.39	0.21220	6.39	0.25157	7.39	0.29094	8.39	0.33031	9.39	0.36969	10.39	0.40884
0.40	0.015748	1.40	0.05512	2.40	0.09448	3.40	0.13386	4.40	0.17323	5.40	0.21260	6.40	0.25197	7.40	0.29134	8.40	0.33071	9.40	0.37009	10.40	0.40923
0.41	0.016142	1.41	0.05551	2.41	0.09488	3.41	0.13425	4.41	0.17363	5.41	0.21299	6.41	0.25236	7.41	0.29173	8.41	0.33110	9.41	0.37047	10.41	0.40962
0.42	0.016535	1.42	0.05590	2.42	0.09528	3.42	0.13465	4.42	0.17402	5.42	0.21339	6.42	0.25276	7.42	0.29213	8.42	0.33150	9.42	0.37087	10.42	0.41001
0.43	0.016930	1.43	0.05630	2.43	0.09567	3.43	0.13504	4.43	0.17441	5.43	0.21378	6.43	0.25315	7.43	0.29252	8.43	0.33189	9.43	0.37126	10.43	0.41040
0.44	0.017323	1.44	0.05669	2.44	0.09606	3.44	0.13543	4.44	0.17480	5.44	0.21417	6.44	0.25354	7.44	0.29293	8.44	0.33228	9.44	0.37165	10.44	0.41079
0.45	0.017717	1.45	0.05709	2.45	0.09646	3.45	0.13583	4.45	0.17520	5.45	0.21457	6.45	0.25394	7.45	0.29331	8.45	0.33268	9.45	0.37205	10.45	0.41118
0.46	0.018110	1.46	0.05748	2.46	0.09685	3.46	0.13622	4.46	0.17559	5.46	0.21496	6.46	0.25433	7.46	0.29370	8.46	0.33307	9.46	0.37244	10.46	0.41157
0.47	0.018504	1.47	0.05787	2.47	0.09724	3.47	0.13662	4.47	0.17598	5.47	0.21535	6.47	0.25472	7.47	0.29409	8.47	0.33346	9.47	0.37283	10.47	0.41196
0.48	0.018898	1.48	0.05827	2.48	0.09764	3.48	0.13701	4.48	0.17638	5.48	0.21575	6.48	0.25512	7.48	0.29449	8.48	0.33386	9.48	0.37323	10.48	0.41235
0.49	0.019291	1.49	0.05866	2.49	0.09803	3.49	0.13740	4.49	0.17677	5.49	0.21614	6.49	0.25551	7.49	0.29488	8.49	0.33425	9.49	0.37362	10.49	0.41274

0.50	0.019685	1.50	0.05906	2.50	0.09843	3.50	0.13780	4.50	0.17717	5.50	0.21654	6.50	0.25591	7.50	0.29528	8.50	0.33465	9.50	0.37402
.51	.020079	1.51	.05945	2.51	.09882	3.51	.13819	4.51	.17756	5.51	.21693	6.51	.25630	7.51	.29567	8.51	.33504	9.51	.37441
.52	.020472	1.52	.05984	2.52	.09921	3.52	.13858	4.52	.17795	5.52	.21732	6.52	.25669	7.52	.29606	8.52	.33543	9.52	.37480
.53	.020866	1.53	.06024	2.53	.09961	3.53	.13898	4.53	.17835	5.53	.21772	6.53	.25709	7.53	.29646	8.53	.33583	9.53	.37520
.54	.021260	1.54	.06063	2.54	.10000	3.54	.13937	4.54	.17874	5.54	.21811	6.54	.25748	7.54	.29685	8.54	.33622	9.54	.37559
.55	.021654	1.55	.06102	2.55	.10039	3.55	.13976	4.55	.17913	5.55	.21850	6.55	.25787	7.55	.29724	8.55	.33661	9.55	.37598
.56	.022047	1.56	.06142	2.56	.10079	3.56	.14016	4.56	.17953	5.56	.21890	6.56	.25827	7.56	.29764	8.56	.33701	9.56	.37638
.57	.022441	1.57	.06181	2.57	.10118	3.57	.14055	4.57	.17992	5.57	.21929	6.57	.25866	7.57	.29803	8.57	.33740	9.57	.37677
.58	.022835	1.58	.06220	2.58	.10157	3.58	.14094	4.58	.18031	5.58	.21969	6.58	.25906	7.58	.29843	8.58	.33780	9.58	.37717
.59	.023228	1.59	.06260	2.59	.10197	3.59	.14134	4.59	.18071	5.59	.22008	6.59	.25945	7.59	.29882	8.59	.33819	9.59	.37756
0.60	0.023622	1.60	0.06299	2.60	0.10236	3.60	0.14173	4.60	0.18110	5.60	0.22047	6.60	0.25984	7.60	0.29921	8.60	0.33858	9.60	0.37795
.61	.024016	1.61	.06339	2.61	.10276	3.61	.14213	4.61	.18150	5.61	.22087	6.61	.26024	7.61	.29961	8.61	.33898	9.61	.37835
.62	.024409	1.62	.06378	2.62	.10315	3.62	.14252	4.62	.18189	5.62	.22126	6.62	.26063	7.62	.30000	8.62	.33937	9.62	.37874
.63	.024803	1.63	.06417	2.63	.10354	3.63	.14291	4.63	.18228	5.63	.22165	6.63	.26102	7.63	.30039	8.63	.33976	9.63	.37913
.64	.025197	1.64	.06457	2.64	.10394	3.64	.14331	4.64	.18268	5.64	.22205	6.64	.26142	7.64	.30079	8.64	.34016	9.64	.37953
.65	.025591	1.65	.06496	2.65	.10433	3.65	.14370	4.65	.18308	5.65	.22244	6.65	.26181	7.65	.30118	8.65	.34055	9.65	.37992
.66	.025984	1.66	.06535	2.66	.10472	3.66	.14409	4.66	.18348	5.66	.22283	6.66	.26220	7.66	.30157	8.66	.34094	9.66	.38031
.67	.026378	1.67	.06574	2.67	.10512	3.67	.14449	4.67	.18386	5.67	.22323	6.67	.26260	7.67	.30197	8.67	.34134	9.67	.38071
.68	.026772	1.68	.06614	2.68	.10551	3.68	.14488	4.68	.18425	5.68	.22362	6.68	.26300	7.68	.30236	8.68	.34173	9.68	.38110
.69	.027165	1.69	.06654	2.69	.10591	3.69	.14528	4.69	.18465	5.69	.22402	6.69	.26339	7.69	.30276	8.69	.34213	9.69	.38150
0.70	0.027559	1.70	0.06693	2.70	0.10630	3.70	0.14567	4.70	0.18504	5.70	0.22441	6.70	0.26378	7.70	0.30315	8.70	0.34252	9.70	0.38189
.71	.027953	1.71	.06732	2.71	.10669	3.71	.14606	4.71	.18543	5.71	.22480	6.71	.26417	7.71	.30354	8.71	.34291	9.71	.38228
.72	.028346	1.72	.06772	2.72	.10708	3.72	.14646	4.72	.18583	5.72	.22520	6.72	.26457	7.72	.30394	8.72	.34331	9.72	.38268
.73	.028740	1.73	.06811	2.73	.10748	3.73	.14685	4.73	.18622	5.73	.22559	6.73	.26496	7.73	.30433	8.73	.34370	9.73	.38307
.74	.029134	1.74	.06850	2.74	.10787	3.74	.14724	4.74	.18661	5.74	.22598	6.74	.26535	7.74	.30472	8.74	.34409	9.74	.38346
.75	.029528	1.75	.06890	2.75	.10826	3.75	.14764	4.75	.18701	5.75	.22637	6.75	.26575	7.75	.30512	8.75	.34449	9.75	.38386
.76	.029921	1.76	.06929	2.76	.10866	3.76	.14803	4.76	.18740	5.76	.22677	6.76	.26614	7.76	.30551	8.76	.34488	9.76	.38425
.77	.030315	1.77	.06969	2.77	.10906	3.77	.14843	4.77	.18779	5.77	.22716	6.77	.26653	7.77	.30591	8.77	.34528	9.77	.38465
.78	.030709	1.78	.07008	2.78	.10945	3.78	.14883	4.78	.18819	5.78	.22756	6.78	.26693	7.78	.30630	8.78	.34567	9.78	.38504
.79	.031102	1.79	.07047	2.79	.10984	3.79	.14921	4.79	.18858	5.79	.22795	6.79	.26732	7.79	.30669	8.79	.34606	9.79	.38543
0.80	0.031496	1.80	0.07087	2.80	0.11024	3.80	0.14961	4.80	0.18898	5.80	0.22835	6.80	0.26772	7.80	0.30709	8.80	0.34646	9.80	0.38583
.81	.031890	1.81	.07126	2.81	.11063	3.81	.15000	4.81	.18937	5.81	.22874	6.81	.26811	7.81	.30748	8.81	.34685	9.81	.38622
.82	.032283	1.82	.07165	2.82	.11102	3.82	.15039	4.82	.18976	5.82	.22913	6.82	.26850	7.82	.30787	8.82	.34724	9.82	.38661
.83	.032677	1.83	.07205	2.83	.11142	3.83	.15079	4.83	.19016	5.83	.22953	6.83	.26890	7.83	.30827	8.83	.34764	9.83	.38701
.84	.033071	1.84	.07244	2.84	.11181	3.84	.15118	4.84	.19055	5.84	.22992	6.84	.26930	7.84	.30866	8.84	.34803	9.84	.38740
.85	.033465	1.85	.07283	2.85	.11220	3.85	.15157	4.85	.19094	5.85	.23031	6.85	.26969	7.85	.30906	8.85	.34843	9.85	.38780
.86	.033858	1.86	.07323	2.86	.11260	3.86	.15197	4.86	.19133	5.86	.23071	6.86	.27008	7.86	.30945	8.86	.34882	9.86	.38819
.87	.034252	1.87	.07362	2.87	.11299	3.87	.15236	4.87	.19173	5.87	.23110	6.87	.27047	7.87	.30984	8.87	.34921	9.87	.38858
.88	.034646	1.88	.07402	2.88	.11339	3.88	.15276	4.88	.19213	5.88	.23150	6.88	.27087	7.88	.31024	8.88	.34961	9.88	.38896
.89	.035039	1.89	.07441	2.89	.11378	3.89	.15315	4.89	.19252	5.89	.23189	6.89	.27126	7.89	.31063	8.89	.35000	9.89	.38937
0.90	0.035433	1.90	0.07480	2.90	0.11417	3.90	0.15354	4.90	0.19291	5.90	0.23228	6.90	0.27165	7.90	0.31102	8.90	0.35039	9.90	0.38976
.91	.035827	1.91	.07520	2.91	.11457	3.91	.15394	4.91	.19331	5.91	.23268	6.91	.27205	7.91	.31142	8.91	.35079	9.91	.39016
.92	.036220	1.92	.07559	2.92	.11496	3.92	.15433	4.92	.19370	5.92	.23307	6.92	.27244	7.92	.31181	8.92	.35118	9.92	.39055
.93	.036614	1.93	.07598	2.93	.11535	3.93	.15472	4.93	.19409	5.93	.23346	6.93	.27283	7.93	.31220	8.93	.35157	9.93	.39094
.94	.037008	1.94	.07638	2.94	.11575	3.94	.15512	4.94	.19449	5.94	.23386	6.94	.27323	7.94	.31260	8.94	.35197	9.94	.39134
.95	.037402	1.95	.07677	2.95	.11614	3.95	.15551	4.95	.19488	5.95	.23425	6.95	.27362	7.95	.31299	8.95	.35236	9.95	.39173
.96	.037795	1.96	.07717	2.96	.11654	3.96	.15591	4.96	.19528	5.96	.23465	6.96	.27402	7.96	.31339	8.96	.35276	9.96	.39213
.97	.038189	1.97	.07756	2.97	.11693	3.97	.15630	4.97	.19567	5.97	.23504	6.97	.27441	7.97	.31378	8.97	.35315	9.97	.39252
.98	.038583	1.98	.07795	2.98	.11732	3.98	.15669	4.98	.19606	5.98	.23543	6.98	.27480	7.98	.31417	8.98	.35354	9.98	.39291
.99	.038976	1.99	.07835	2.99	.11772	3.99	.15709	4.99	.19646	5.99	.23583	6.99	.27520	7.99	.31457	8.99	.35394	9.99	.39331

8.7. LENGTH—MILLIMETERS TO INCHES—Continued

[Reduction Factor: 1 millimeter = 0.039 370 08 inch]

Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	
0.39370	0.039370	11.00	0.43307	12.00	0.47244	13.00	0.51181	14.00	0.55118	15.00	0.59055	16.00	0.62992	17.00	0.66929	18.00	0.70866	19.00	0.74803	19.00	0.78740	19.00	0.82677	19.00
0.39409	0.039409	11.01	0.43346	12.01	0.47283	13.01	0.51220	14.01	0.55157	15.01	0.59094	16.01	0.63031	17.01	0.66968	18.01	0.70905	19.01	0.74842	19.01	0.78779	19.01	0.82716	19.01
0.39449	0.039449	11.02	0.43386	12.02	0.47323	13.02	0.51260	14.02	0.55197	15.02	0.59134	16.02	0.63071	17.02	0.67008	18.02	0.70945	19.02	0.74882	19.02	0.78819	19.02	0.82756	19.02
0.39488	0.039488	11.03	0.43425	12.03	0.47362	13.03	0.51299	14.03	0.55236	15.03	0.59173	16.03	0.63110	17.03	0.67047	18.03	0.70984	19.03	0.74921	19.03	0.78858	19.03	0.82795	19.03
0.39528	0.039528	11.04	0.43465	12.04	0.47402	13.04	0.51339	14.04	0.55276	15.04	0.59213	16.04	0.63150	17.04	0.67087	18.04	0.71024	19.04	0.74961	19.04	0.78898	19.04	0.82835	19.04
0.39567	0.039567	11.05	0.43504	12.05	0.47441	13.05	0.51378	14.05	0.55315	15.05	0.59252	16.05	0.63189	17.05	0.67126	18.05	0.71063	19.05	0.75000	19.05	0.78937	19.05	0.82875	19.05
0.39606	0.039606	11.06	0.43543	12.06	0.47480	13.06	0.51417	14.06	0.55354	15.06	0.59291	16.06	0.63228	17.06	0.67165	18.06	0.71102	19.06	0.75039	19.06	0.78976	19.06	0.82915	19.06
0.39646	0.039646	11.07	0.43583	12.07	0.47520	13.07	0.51457	14.07	0.55394	15.07	0.59330	16.07	0.63268	17.07	0.67205	18.07	0.71142	19.07	0.75079	19.07	0.79016	19.07	0.82955	19.07
0.39685	0.039685	11.08	0.43622	12.08	0.47559	13.08	0.51496	14.08	0.55434	15.08	0.59370	16.08	0.63307	17.08	0.67244	18.08	0.71181	19.08	0.75118	19.08	0.79055	19.08	0.82995	19.08
0.39724	0.039724	11.09	0.43661	12.09	0.47598	13.09	0.51535	14.09	0.55472	15.09	0.59409	16.09	0.63346	17.09	0.67283	18.09	0.71220	19.09	0.75157	19.09	0.79092	19.09	0.83035	19.09
0.39764	0.039764	11.10	0.43701	12.10	0.47638	13.10	0.51575	14.10	0.55512	15.10	0.59449	16.10	0.63386	17.10	0.67323	18.10	0.71260	19.10	0.75197	19.10	0.79129	19.10	0.83075	19.10
0.39803	0.039803	11.11	0.43740	12.11	0.47677	13.11	0.51614	14.11	0.55551	15.11	0.59488	16.11	0.63425	17.11	0.67362	18.11	0.71299	19.11	0.75236	19.11	0.79168	19.11	0.83115	19.11
0.39843	0.039843	11.12	0.43780	12.12	0.47717	13.12	0.51654	14.12	0.55591	15.12	0.59528	16.12	0.63465	17.12	0.67402	18.12	0.71339	19.12	0.75276	19.12	0.79208	19.12	0.83155	19.12
0.39882	0.039882	11.13	0.43819	12.13	0.47756	13.13	0.51693	14.13	0.55630	15.13	0.59567	16.13	0.63504	17.13	0.67441	18.13	0.71378	19.13	0.75315	19.13	0.79248	19.13	0.83195	19.13
0.39921	0.039921	11.14	0.43858	12.14	0.47795	13.14	0.51732	14.14	0.55669	15.14	0.59606	16.14	0.63543	17.14	0.67480	18.14	0.71417	19.14	0.75354	19.14	0.79287	19.14	0.83235	19.14
0.39961	0.039961	11.15	0.43898	12.15	0.47835	13.15	0.51772	14.15	0.55709	15.15	0.59646	16.15	0.63583	17.15	0.67520	18.15	0.71457	19.15	0.75394	19.15	0.79327	19.15	0.83275	19.15
0.40000	0.040000	11.16	0.43937	12.16	0.47874	13.16	0.51811	14.16	0.55748	15.16	0.59685	16.16	0.63622	17.16	0.67559	18.16	0.71497	19.16	0.75433	19.16	0.79367	19.16	0.83315	19.16
0.40039	0.040039	11.17	0.43977	12.17	0.47913	13.17	0.51850	14.17	0.55787	15.17	0.59724	16.17	0.63661	17.17	0.67598	18.17	0.71536	19.17	0.75472	19.17	0.79406	19.17	0.83355	19.17
0.40079	0.040079	11.18	0.44016	12.18	0.47953	13.18	0.51890	14.18	0.55827	15.18	0.59764	16.18	0.63701	17.18	0.67638	18.18	0.71575	19.18	0.75512	19.18	0.79445	19.18	0.83395	19.18
0.40118	0.040118	11.19	0.44055	12.19	0.47992	13.19	0.51929	14.19	0.55866	15.19	0.59803	16.19	0.63741	17.19	0.67677	18.19	0.71614	19.19	0.75551	19.19	0.79484	19.19	0.83435	19.19
0.40157	0.040157	11.20	0.44094	12.20	0.48031	13.20	0.51969	14.20	0.55906	15.20	0.59843	16.20	0.63780	17.20	0.67717	18.20	0.71654	19.20	0.75591	19.20	0.79523	19.20	0.83475	19.20
0.40197	0.040197	11.21	0.44134	12.21	0.48071	13.21	0.52008	14.21	0.55945	15.21	0.59882	16.21	0.63819	17.21	0.67756	18.21	0.71693	19.21	0.75630	19.21	0.79562	19.21	0.83515	19.21
0.40236	0.040236	11.22	0.44173	12.22	0.48110	13.22	0.52047	14.22	0.55984	15.22	0.59921	16.22	0.63858	17.22	0.67795	18.22	0.71732	19.22	0.75669	19.22	0.79603	19.22	0.83555	19.22
0.40276	0.040276	11.23	0.44213	12.23	0.48150	13.23	0.52087	14.23	0.56024	15.23	0.59961	16.23	0.63898	17.23	0.67835	18.23	0.71772	19.23	0.75709	19.23	0.79643	19.23	0.83595	19.23
0.40315	0.040315	11.24	0.44252	12.24	0.48189	13.24	0.52126	14.24	0.56063	15.24	0.60000	16.24	0.63937	17.24	0.67874	18.24	0.71811	19.24	0.75748	19.24	0.79683	19.24	0.83635	19.24
0.40354	0.040354	11.25	0.44291	12.25	0.48228	13.25	0.52165	14.25	0.56102	15.25	0.60039	16.25	0.63976	17.25	0.67913	18.25	0.71850	19.25	0.75787	19.25	0.79723	19.25	0.83675	19.25
0.40394	0.040394	11.26	0.44331	12.26	0.48268	13.26	0.52205	14.26	0.56142	15.26	0.60079	16.26	0.64016	17.26	0.67953	18.26	0.71889	19.26	0.75827	19.26	0.79763	19.26	0.83715	19.26
0.40433	0.040433	11.27	0.44371	12.27	0.48307	13.27	0.52244	14.27	0.56181	15.27	0.60118	16.27	0.64055	17.27	0.67993	18.27	0.71928	19.27	0.75866	19.27	0.79803	19.27	0.83755	19.27
0.40472	0.040472	11.28	0.44410	12.28	0.48346	13.28	0.52283	14.28	0.56220	15.28	0.60157	16.28	0.64094	17.28	0.68032	18.28	0.71967	19.28	0.75906	19.28	0.79843	19.28	0.83795	19.28
0.40512	0.040512	11.29	0.44449	12.29	0.48386	13.29	0.52323	14.29	0.56260	15.29	0.60197	16.29	0.64133	17.29	0.68071	18.29	0.72008	19.29	0.75945	19.29	0.79883	19.29	0.83835	19.29
0.40551	0.040551	11.30	0.44488	12.30	0.48425	13.30	0.52362	14.30	0.56300	15.30	0.60236	16.30	0.64173	17.30	0.68110	18.30	0.72049	19.30	0.75984	19.30	0.79923	19.30	0.83875	19.30
0.40591	0.040591	11.31	0.44528	12.31	0.48465	13.31	0.52402	14.31	0.56339	15.31	0.60276	16.31	0.64213	17.31	0.68150	18.31	0.72090	19.31	0.76024	19.31	0.79963	19.31	0.83915	19.31
0.40631	0.040631	11.32	0.44568	12.32	0.48504	13.32	0.52442	14.32	0.56378	15.32	0.60315	16.32	0.64253	17.32	0.68190	18.32	0.72131	19.32	0.76064	19.32	0.80003	19.32	0.83955	19.32
0.40671	0.040671	11.33	0.44607	12.33	0.48543	13.33	0.52481	14.33	0.56417	15.33	0.60354	16.33	0.64293	17.33	0.68230	18.33	0.72172	19.33	0.76104	19.33	0.80043	19.33	0.83995	19.33
0.40711	0.040711	11.34	0.44646	12.34	0.48583	13.34	0.52520	14.34	0.56457	15.34	0.60394	16.34	0.64333	17.34	0.68270	18.34	0.72213	19.34	0.76144	19.34	0.80083	19.34	0.84035	19.34
0.40751	0.040751	11.35	0.44685	12.35	0.48623	13.35	0.52559	14.35	0.56496	15.35	0.60433	16.35	0.64373	17.35	0.68310	18.35	0.72254	19.35	0.76184	19.35	0.80123	19.35	0.84075	19.35
0.40791	0.040791	11.36	0.44724	12.36	0.48663	13.36	0.52599	14.36	0.56535	15.36	0.60472	16.36	0.64413	17.36	0.68350	18.36	0.72295	19.36	0.76225	19.36	0.80163	19.36	0.84115	19.36
0.40831	0.040831	11.37	0.44764	12.37	0.48703	13.37	0.52638	14.37	0.56575	15.37	0.60512	16.37	0.64453	17.37	0.68390	18.37	0.72336	19.37	0.76265	19.37	0.80203	19.37	0.84155	19.37
0.40871	0.040871	11.38	0.44803	12.38	0.48743	13.38	0.52677	14.38	0.56614	15.38	0.60551	16.38	0.64493	17.38	0.68430	18.38	0.72377	19.38	0.76305	19.38	0.80243	19.38	0.84195	19.38
0.40911	0.040911	11.39	0.44843	12.39	0.48783	13.39	0.52717	14.39	0.56654	15.39	0.60591	16.39	0.64533	17.39	0.68470	18.39	0.72418	19.39	0.76345	19.39	0.80283	19.39	0.84235	19.39
0.40951	0.040951	11.40	0.44882	12.40	0.48823	13.40	0.52756	14.40	0.56694	15.40	0.60630	16.40	0.64573	17.40	0.68510	18.40	0.72459	19.40	0.76385	19.40	0.80323	19.40	0.84275	19.40
0.40991	0.040991	11.41	0.44922	12.41	0.48863	13.41	0.52795	14.41	0.56733	15.41	0.60669	16.41	0.64613	17.41	0.68550	18.41	0.72500	19.41	0.76425	19.41	0.80363	19.41	0.84315	19.41
0.41031	0.041031	11.42	0.44961	12.42	0.48903	13.42	0.52835	14.42	0.56772	15.42	0.60709	16.42	0.64653</											

10.50	0.41339	11.50	0.45276	12.50	0.49213	13.50	0.53150	14.50	0.57087	15.50	0.61024	16.50	0.64961	17.50	0.68898	18.50	0.72835	19.50	0.76772
10.51	41378	11.51	45315	12.51	49252	13.51	53188	14.51	57126	15.51	61063	16.51	65000	17.51	68937	18.51	72874	19.51	76811
10.52	41417	11.52	45354	12.52	49291	13.52	53228	14.52	57165	15.52	61102	16.52	65039	17.52	68976	18.52	72913	19.52	76850
10.53	41456	11.53	45393	12.53	49330	13.53	53268	14.53	57203	15.53	61141	16.53	65079	17.53	69016	18.53	72953	19.53	76889
10.54	41495	11.54	45432	12.54	49369	13.54	53307	14.54	57241	15.54	61180	16.54	65118	17.54	69055	18.54	72992	19.54	76928
10.55	41535	11.55	45472	12.55	49409	13.55	53346	14.55	57283	15.55	61220	16.55	65157	17.55	69094	18.55	73031	19.55	76968
10.56	41575	11.56	45512	12.56	49448	13.56	53386	14.56	57323	15.56	61260	16.56	65197	17.56	69133	18.56	73071	19.56	77008
10.57	41614	11.57	45551	12.57	49488	13.57	53425	14.57	57362	15.57	61299	16.57	65236	17.57	69173	18.57	73110	19.57	77047
10.58	41654	11.58	45591	12.58	49528	13.58	53465	14.58	57402	15.58	61339	16.58	65276	17.58	69213	18.58	73150	19.58	77087
10.59	41693	11.59	45630	12.59	49567	13.59	53504	14.59	57441	15.59	61378	16.59	65315	17.59	69252	18.59	73189	19.59	77126
10.60	0.41732	11.60	0.45669	12.60	0.49606	13.60	0.53543	14.60	0.57480	15.60	0.61417	16.60	0.65354	17.60	0.69291	18.60	0.73228	19.60	0.77165
10.61	41772	11.61	45709	12.61	49646	13.61	53583	14.61	57520	15.61	61457	16.61	65394	17.61	69331	18.61	73268	19.61	77204
10.62	41811	11.62	45748	12.62	49685	13.62	53622	14.62	57559	15.62	61497	16.62	65433	17.62	69370	18.62	73307	19.62	77244
10.63	41850	11.63	45787	12.63	49724	13.63	53662	14.63	57598	15.63	61535	16.63	65472	17.63	69409	18.63	73346	19.63	77283
10.64	41890	11.64	45827	12.64	49764	13.64	53701	14.64	57639	15.64	61574	16.64	65512	17.64	69448	18.64	73385	19.64	77323
10.65	41929	11.65	45866	12.65	49803	13.65	53740	14.65	57677	15.65	61614	16.65	65551	17.65	69487	18.65	73425	19.65	77362
10.66	41969	11.66	45905	12.66	49843	13.66	53780	14.66	57717	15.66	61654	16.66	65590	17.66	69528	18.66	73465	19.66	77402
10.67	42008	11.67	45945	12.67	49882	13.67	53820	14.67	57756	15.67	61693	16.67	65630	17.67	69567	18.67	73504	19.67	77441
10.68	42047	11.68	45984	12.68	49921	13.68	53860	14.68	57795	15.68	61732	16.68	65669	17.68	69606	18.68	73543	19.68	77480
10.69	42087	11.69	46024	12.69	49961	13.69	53900	14.69	57835	15.69	61772	16.69	65709	17.69	69646	18.69	73583	19.69	77520
10.70	0.42126	11.70	0.46063	12.70	0.50000	13.70	0.53937	14.70	0.57874	15.70	0.61811	16.70	0.65748	17.70	0.69685	18.70	0.73622	19.70	0.77559
10.71	42165	11.71	46102	12.71	50039	13.71	53976	14.71	57913	15.71	61850	16.71	65787	17.71	69724	18.71	73661	19.71	77598
10.72	42205	11.72	46142	12.72	50079	13.72	54016	14.72	57953	15.72	61890	16.72	65827	17.72	69764	18.72	73701	19.72	77638
10.73	42244	11.73	46181	12.73	50118	13.73	54055	14.73	57992	15.73	61929	16.73	65866	17.73	69803	18.73	73740	19.73	77677
10.74	42283	11.74	46220	12.74	50157	13.74	54094	14.74	58031	15.74	61969	16.74	65906	17.74	69843	18.74	73780	19.74	77717
10.75	42323	11.75	46260	12.75	50197	13.75	54134	14.75	58071	15.75	62008	16.75	65945	17.75	69882	18.75	73819	19.75	77756
10.76	42362	11.76	46300	12.76	50236	13.76	54173	14.76	58110	15.76	62047	16.76	65984	17.76	69921	18.76	73858	19.76	77795
10.77	42402	11.77	46339	12.77	50276	13.77	54213	14.77	58150	15.77	62087	16.77	66024	17.77	69961	18.77	73898	19.77	77835
10.78	42441	11.78	46378	12.78	50315	13.78	54252	14.78	58189	15.78	62126	16.78	66063	17.78	70000	18.78	73937	19.78	77874
10.79	42480	11.79	46417	12.79	50354	13.79	54291	14.79	58228	15.79	62165	16.79	66102	17.79	70039	18.79	73976	19.79	77913
10.80	0.42520	11.80	0.46457	12.80	0.50394	13.80	0.54331	14.80	0.58268	15.80	0.62205	16.80	0.66142	17.80	0.70079	18.80	0.74016	19.80	0.77953
10.81	42559	11.81	46496	12.81	50433	13.81	54370	14.81	58307	15.81	62244	16.81	66181	17.81	70118	18.81	74055	19.81	77992
10.82	42598	11.82	46535	12.82	50472	13.82	54409	14.82	58346	15.82	62283	16.82	66220	17.82	70157	18.82	74094	19.82	78031
10.83	42637	11.83	46574	12.83	50512	13.83	54449	14.83	58386	15.83	62323	16.83	66260	17.83	70197	18.83	74134	19.83	78071
10.84	42677	11.84	46613	12.84	50551	13.84	54488	14.84	58425	15.84	62362	16.84	66300	17.84	70236	18.84	74173	19.84	78110
10.85	42717	11.85	46653	12.85	50591	13.85	54528	14.85	58465	15.85	62402	16.85	66339	17.85	70276	18.85	74213	19.85	78150
10.86	42756	11.86	46693	12.86	50630	13.86	54567	14.86	58504	15.86	62441	16.86	66378	17.86	70315	18.86	74252	19.86	78189
10.87	42795	11.87	46732	12.87	50669	13.87	54606	14.87	58543	15.87	62480	16.87	66417	17.87	70354	18.87	74291	19.87	78228
10.88	42835	11.88	46772	12.88	50709	13.88	54646	14.88	58583	15.88	62520	16.88	66457	17.88	70394	18.88	74331	19.88	78268
10.89	42874	11.89	46811	12.89	50748	13.89	54685	14.89	58622	15.89	62559	16.89	66496	17.89	70433	18.89	74370	19.89	78307
10.90	0.42913	11.90	0.46850	12.90	0.50787	13.90	0.54724	14.90	0.58661	15.90	0.62598	16.90	0.66535	17.90	0.70472	18.90	0.74409	19.90	0.78346
10.91	42953	11.91	46890	12.91	50827	13.91	54764	14.91	58701	15.91	62638	16.91	66575	17.91	70512	18.91	74449	19.91	78386
10.92	42992	11.92	46929	12.92	50866	13.92	54803	14.92	58740	15.92	62677	16.92	66614	17.92	70551	18.92	74488	19.92	78425
10.93	43031	11.93	46969	12.93	50906	13.93	54843	14.93	58780	15.93	62717	16.93	66654	17.93	70591	18.93	74528	19.93	78465
10.94	43071	11.94	47008	12.94	50945	13.94	54884	14.94	58819	15.94	62756	16.94	66693	17.94	70630	18.94	74567	19.94	78504
10.95	43110	11.95	47047	12.95	50984	13.95	54921	14.95	58858	15.95	62795	16.95	66732	17.95	70669	18.95	74606	19.95	78543
10.96	43150	11.96	47087	12.96	51024	13.96	54961	14.96	58898	15.96	62835	16.96	66772	17.96	70709	18.96	74646	19.96	78583
10.97	43189	11.97	47126	12.97	51063	13.97	55000	14.97	58937	15.97	62874	16.97	66811	17.97	70748	18.97	74685	19.97	78622
10.98	43228	11.98	47165	12.98	51102	13.98	55039	14.98	58976	15.98	62913	16.98	66850	17.98	70787	18.98	74724	19.98	78661
10.99	43268	11.99	47205	12.99	51142	13.99	55079	14.99	59016	15.99	62953	16.99	66890	17.99	70827	18.99	74764	19.99	78701

8.7. LENGTH—MILLIMETERS TO INCHES—Continued

[Reduction Factor: 1 millimeter = 0.039 370 08

Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches	Milli- meters	Inches
20.00	0.78740	21.00	0.82677	22.00	0.86614	23.00	0.90551	24.00	0.94488	25.00	0.98425	26.00	1.02362
20.01	0.78780	21.01	0.82717	22.01	0.86654	23.01	0.90591	24.01	0.94528	25.01	0.98465	26.01	1.02402
20.02	0.78819	21.02	0.82756	22.02	0.86693	23.02	0.90630	24.02	0.94567	25.02	0.98504	26.02	1.02442
20.03	0.78858	21.03	0.82795	22.03	0.86732	23.03	0.90669	24.03	0.94606	25.03	0.98543	26.03	1.02482
20.04	0.78898	21.04	0.82835	22.04	0.86772	23.04	0.90709	24.04	0.94646	25.04	0.98583	26.04	1.02522
20.05	0.78937	21.05	0.82874	22.05	0.86811	23.05	0.90748	24.05	0.94685	25.05	0.98622	26.05	1.02562
20.06	0.78976	21.06	0.82913	22.06	0.86850	23.06	0.90787	24.06	0.94724	25.06	0.98661	26.06	1.02602
20.07	0.79016	21.07	0.82953	22.07	0.86890	23.07	0.90827	24.07	0.94764	25.07	0.98701	26.07	1.02642
20.08	0.79055	21.08	0.82992	22.08	0.86929	23.08	0.90866	24.08	0.94803	25.08	0.98740	26.08	1.02682
20.09	0.79094	21.09	0.83031	22.09	0.86969	23.09	0.90906	24.09	0.94843	25.09	0.98780	26.09	1.02722
20.10	0.79134	21.10	0.83071	22.10	0.87008	23.10	0.90945	24.10	0.94882	25.10	0.98819	26.10	1.02762
20.11	0.79173	21.11	0.83110	22.11	0.87047	23.11	0.90984	24.11	0.94921	25.11	0.98858	26.11	1.02802
20.12	0.79213	21.12	0.83150	22.12	0.87087	23.12	0.91024	24.12	0.94961	25.12	0.98898	26.12	1.02842
20.13	0.79252	21.13	0.83189	22.13	0.87126	23.13	0.91063	24.13	0.95000	25.13	0.98937	26.13	1.02882
20.14	0.79291	21.14	0.83228	22.14	0.87165	23.14	0.91102	24.14	0.95039	25.14	0.98976	26.14	1.02922
20.15	0.79331	21.15	0.83268	22.15	0.87205	23.15	0.91142	24.15	0.95079	25.15	0.99016	26.15	1.02962
20.16	0.79370	21.16	0.83307	22.16	0.87244	23.16	0.91181	24.16	0.95118	25.16	0.99055	26.16	1.03002
20.17	0.79409	21.17	0.83346	22.17	0.87283	23.17	0.91220	24.17	0.95157	25.17	0.99094	26.17	1.03042
20.18	0.79449	21.18	0.83386	22.18	0.87323	23.18	0.91260	24.18	0.95197	25.18	0.99134	26.18	1.03082
20.19	0.79488	21.19	0.83425	22.19	0.87362	23.19	0.91299	24.19	0.95236	25.19	0.99173	26.19	1.03122
20.20	0.79528	21.20	0.83465	22.20	0.87402	23.20	0.91339	24.20	0.95276	25.20	0.99213	26.20	1.03162
20.21	0.79567	21.21	0.83504	22.21	0.87441	23.21	0.91378	24.21	0.95315	25.21	0.99252	26.21	1.03202
20.22	0.79606	21.22	0.83543	22.22	0.87480	23.22	0.91417	24.22	0.95354	25.22	0.99291	26.22	1.03242
20.23	0.79646	21.23	0.83583	22.23	0.87520	23.23	0.91457	24.23	0.95394	25.23	0.99331	26.23	1.03282
20.24	0.79685	21.24	0.83622	22.24	0.87559	23.24	0.91496	24.24	0.95433	25.24	0.99370	26.24	1.03322
20.25	0.79724	21.25	0.83661	22.25	0.87598	23.25	0.91535	24.25	0.95472	25.25	0.99409	26.25	1.03362
20.26	0.79764	21.26	0.83701	22.26	0.87638	23.26	0.91575	24.26	0.95512	25.26	0.99449	26.26	1.03402
20.27	0.79803	21.27	0.83740	22.27	0.87677	23.27	0.91614	24.27	0.95551	25.27	0.99488	26.27	1.03442
20.28	0.79843	21.28	0.83780	22.28	0.87717	23.28	0.91654	24.28	0.95591	25.28	0.99528	26.28	1.03482
20.29	0.79882	21.29	0.83819	22.29	0.87756	23.29	0.91693	24.29	0.95630	25.29	0.99567	26.29	1.03522
20.30	0.79921	21.30	0.83858	22.30	0.87795	23.30	0.91732	24.30	0.95669	25.30	0.99606	26.30	1.03562
20.31	0.79961	21.31	0.83898	22.31	0.87835	23.31	0.91772	24.31	0.95709	25.31	0.99646	26.31	1.03602
20.32	0.80000	21.32	0.83937	22.32	0.87874	23.32	0.91811	24.32	0.95748	25.32	0.99685	26.32	1.03642
20.33	0.80039	21.33	0.83976	22.33	0.87913	23.33	0.91850	24.33	0.95787	25.33	0.99724	26.33	1.03682
20.34	0.80079	21.34	0.84016	22.34	0.87953	23.34	0.91890	24.34	0.95827	25.34	0.99764	26.34	1.03722
20.35	0.80118	21.35	0.84055	22.35	0.87992	23.35	0.91929	24.35	0.95866	25.35	0.99803	26.35	1.03762
20.36	0.80157	21.36	0.84094	22.36	0.88031	23.36	0.91969	24.36	0.95906	25.36	0.99843	26.36	1.03802
20.37	0.80197	21.37	0.84134	22.37	0.88071	23.37	0.92008	24.37	0.95945	25.37	0.99882	26.37	1.03842
20.38	0.80236	21.38	0.84173	22.38	0.88110	23.38	0.92047	24.38	0.95984	25.38	0.99921	26.38	1.03882
20.39	0.80276	21.39	0.84213	22.39	0.88150	23.39	0.92087	24.39	0.96024	25.39	0.99961	26.39	1.03922
20.40	0.80315	21.40	0.84252	22.40	0.88189	23.40	0.92126	24.40	0.96063	25.40	1.00000	26.40	1.03962
20.41	0.80354	21.41	0.84291	22.41	0.88228	23.41	0.92165	24.41	0.96102	25.41		26.41	
20.42	0.80394	21.42	0.84331	22.42	0.88268	23.42	0.92204	24.42	0.96142	25.42		26.42	
20.43	0.80433	21.43	0.84370	22.43	0.88307	23.43	0.92244	24.43	0.96181	25.43		26.43	
20.44	0.80473	21.44	0.84409	22.44	0.88346	23.44	0.92283	24.44	0.96220	25.44		26.44	
20.45	0.80512	21.45	0.84449	22.45	0.88386	23.45	0.92323	24.45	0.96260	25.45		26.45	
20.46	0.80551	21.46	0.84488	22.46	0.88425	23.46	0.92362	24.46	0.96300	25.46		26.46	
20.47	0.80591	21.47	0.84528	22.47	0.88465	23.47	0.92402	24.47	0.96339	25.47		26.47	
20.48	0.80630	21.48	0.84567	22.48	0.88504	23.48	0.92441	24.48	0.96378	25.48		26.48	
20.49	0.80669	21.49	0.84606	22.49	0.88543	23.49	0.92480	24.49	0.96417	25.49		26.49	

20.50	0.80709	21.50	0.84646	22.50	0.88583	23.50	0.92520	24.50	0.96457
20.51	.80748	21.51	.84685	22.51	.88622	23.51	.92559	24.51	.96496
20.52	.80787	21.52	.84724	22.52	.88661	23.52	.92598	24.52	.96535
20.53	.80827	21.53	.84764	22.53	.88701	23.53	.92638	24.53	.96575
20.54	.80866	21.54	.84803	22.54	.88740	23.54	.92677	24.54	.96614
20.55	.80906	21.55	.84843	22.55	.88780	23.55	.92717	24.55	.96654
20.56	.80945	21.56	.84882	22.56	.88819	23.56	.92756	24.56	.96693
20.57	.80984	21.57	.84921	22.57	.88858	23.57	.92795	24.57	.96732
20.58	.81024	21.58	.84961	22.58	.88898	23.58	.92835	24.58	.96772
20.59	.81063	21.59	.85000	22.59	.88937	23.59	.92874	24.59	.96811
20.60	0.81102	21.60	0.85039	22.60	0.88976	23.60	0.92913	24.60	0.96850
20.61	.81142	21.61	.85079	22.61	.89016	23.61	.92953	24.61	.96890
20.62	.81181	21.62	.85118	22.62	.89055	23.62	.92992	24.62	.96929
20.63	.81220	21.63	.85157	22.63	.89094	23.63	.93031	24.63	.96969
20.64	.81260	21.64	.85197	22.64	.89134	23.64	.93071	24.64	.97008
20.65	.81299	21.65	.85236	22.65	.89173	23.65	.93110	24.65	.97047
20.66	.81339	21.66	.85276	22.66	.89213	23.66	.93150	24.66	.97087
20.67	.81378	21.67	.85315	22.67	.89252	23.67	.93189	24.67	.97126
20.68	.81417	21.68	.85354	22.68	.89291	23.68	.93228	24.68	.97165
20.69	.81457	21.69	.85394	22.69	.89331	23.69	.93268	24.69	.97205
20.70	0.81496	21.70	0.85433	22.70	0.89370	23.70	0.93307	24.70	0.97244
20.71	.81535	21.71	.85472	22.71	.89409	23.71	.93346	24.71	.97283
20.72	.81575	21.72	.85512	22.72	.89449	23.72	.93386	24.72	.97323
20.73	.81614	21.73	.85551	22.73	.89488	23.73	.93425	24.73	.97362
20.74	.81654	21.74	.85591	22.74	.89528	23.74	.93465	24.74	.97402
20.75	.81693	21.75	.85630	22.75	.89567	23.75	.93504	24.75	.97441
20.76	.81732	21.76	.85669	22.76	.89606	23.76	.93543	24.76	.97480
20.77	.81772	21.77	.85709	22.77	.89646	23.77	.93583	24.77	.97520
20.78	.81811	21.78	.85748	22.78	.89685	23.78	.93622	24.78	.97559
20.79	.81850	21.79	.85787	22.79	.89724	23.79	.93661	24.79	.97598
20.80	0.81890	21.80	0.85827	22.80	0.89764	23.80	0.93701	24.80	0.97638
20.81	.81929	21.81	.85866	22.81	.89803	23.81	.93740	24.81	.97677
20.82	.81969	21.82	.85906	22.82	.89843	23.82	.93780	24.82	.97717
20.83	.82008	21.83	.85945	22.83	.89882	23.83	.93819	24.83	.97756
20.84	.82047	21.84	.85984	22.84	.89921	23.84	.93858	24.84	.97795
20.85	.82087	21.85	.86024	22.85	.89961	23.85	.93898	24.85	.97835
20.86	.82126	21.86	.86063	22.86	.90000	23.86	.93937	24.86	.97874
20.87	.82165	21.87	.86102	22.87	.90039	23.87	.93976	24.87	.97913
20.88	.82205	21.88	.86142	22.88	.90079	23.88	.94016	24.88	.97953
20.89	.82244	21.89	.86181	22.89	.90118	23.89	.94055	24.89	.97992
20.90	0.82283	21.90	0.86220	22.90	0.90157	23.90	0.94094	24.90	0.98031
20.91	.82323	21.91	.86260	22.91	.90197	23.91	.94134	24.91	.98071
20.92	.82362	21.92	.86299	22.92	.90236	23.92	.94173	24.92	.98110
20.93	.82402	21.93	.86339	22.93	.90276	23.93	.94213	24.93	.98150
20.94	.82441	21.94	.86378	22.94	.90315	23.94	.94252	24.94	.98189
20.95	.82480	21.95	.86417	22.95	.90354	23.95	.94291	24.95	.98228
20.96	.82520	21.96	.86457	22.96	.90394	23.96	.94331	24.96	.98268
20.97	.82559	21.97	.86496	22.97	.90433	23.97	.94370	24.97	.98307
20.98	.82598	21.98	.86535	22.98	.90472	23.98	.94409	24.98	.98346
20.99	.82638	21.99	.86575	22.99	.90512	23.99	.94449	24.99	.98386

50	15.2400	150	45.7200	250	76.2000	350	106.6800	450	137.4600	550	167.6400	650	198.1200	750	228.9048	850	259.0800	950	289.5600
51	15.5448	151	46.0248	251	76.5048	351	106.9848	451	137.4648	551	167.9448	651	198.4248	751	228.9048	851	259.3848	951	289.8648
52	15.8496	152	46.3296	252	76.8096	352	107.2896	452	137.7696	552	168.2496	652	198.7296	752	229.2096	852	259.6896	952	289.9128
53	16.1544	153	46.6344	253	77.1144	353	107.5844	453	138.0744	553	168.5496	653	199.0344	753	229.5144	853	259.9944	953	290.4744
54	16.4592	154	46.9392	254	77.4192	354	107.8892	454	138.3792	554	168.8592	654	199.3392	754	229.8192	854	260.2992	954	290.7792
55	16.7640	155	47.2440	255	77.7240	355	108.2040	455	138.6840	555	169.1640	655	199.6440	755	230.1240	855	260.6040	955	291.0840
56	17.0688	156	47.5488	256	78.0288	356	108.5088	456	138.9888	556	169.4688	656	199.9488	756	230.4288	856	260.9088	956	291.3888
57	17.3736	157	47.8536	257	78.3336	357	108.8136	457	139.2936	557	169.7736	657	200.2536	757	230.7336	857	261.2136	957	291.6936
58	17.6784	158	48.1584	258	78.6384	358	109.1184	458	139.5984	558	170.0784	658	200.5584	758	231.0384	858	261.5184	958	291.9984
59	17.9832	159	48.4632	259	78.9432	359	109.4232	459	139.9032	559	170.3832	659	200.8632	759	231.3432	859	261.8232	959	292.3032
60	18.2880	160	48.7680	260	79.2480	360	109.7280	460	140.2080	560	170.6880	660	201.1680	760	231.6480	860	262.1232	960	292.6080
61	18.5928	161	49.0728	261	79.5528	361	110.0328	461	140.5128	561	170.9928	661	201.4728	761	231.9528	861	262.4328	961	292.9128
62	18.8976	162	49.3776	262	79.8576	362	110.3376	462	140.8176	562	171.2976	662	201.7776	762	232.2576	862	262.7376	962	293.2176
63	19.2024	163	49.6824	263	80.1624	363	110.6424	463	141.1224	563	171.6024	663	202.0824	763	232.5624	863	263.0424	963	293.5224
64	19.5072	164	49.9872	264	80.4672	364	110.9472	464	141.4272	564	171.9072	664	202.3872	764	232.8672	864	263.3472	964	293.8272
65	19.8120	165	50.2920	265	80.7720	365	111.2520	465	141.7320	565	172.2120	665	202.6920	765	233.1720	865	263.6520	965	294.1320
66	20.1168	166	50.5968	266	81.0768	366	111.5568	466	142.0368	566	172.5168	666	202.9968	766	233.4768	866	263.9568	966	294.4368
67	20.4216	167	50.9016	267	81.3816	367	111.8616	467	142.3416	567	172.8216	667	203.3016	767	233.7816	867	264.2616	967	294.7416
68	20.7264	168	51.2064	268	81.6864	368	112.1664	468	142.6464	568	173.1264	668	203.6064	768	234.0864	868	264.5664	968	295.0464
69	21.0312	169	51.5112	269	81.9912	369	112.4712	469	142.9512	569	173.4312	669	203.9112	769	234.3912	869	264.8712	969	295.3512
70	21.3360	170	51.8160	270	82.2960	370	112.7760	470	143.2560	570	173.7360	670	204.2160	770	234.6960	870	265.1760	970	295.6560
71	21.6408	171	52.1208	271	82.6008	371	113.0808	471	143.5608	571	174.0408	671	204.5208	771	235.0008	871	265.4808	971	295.9608
72	21.9456	172	52.4256	272	82.9056	372	113.3856	472	143.8656	572	174.3456	672	204.8256	772	235.3056	872	265.7856	972	296.2656
73	22.2504	173	52.7304	273	83.2104	373	113.6904	473	144.1704	573	174.6504	673	205.1304	773	235.6104	873	266.0904	973	296.5704
74	22.5552	174	53.0352	274	83.5152	374	113.9952	474	144.4752	574	174.9552	674	205.4352	774	235.9152	874	266.3952	974	296.8752
75	22.8600	175	53.3400	275	83.8200	375	114.3000	475	144.7800	575	175.2600	675	205.7400	775	236.2200	875	266.7000	975	297.1800
76	23.1648	176	53.6448	276	84.1248	376	114.6048	476	145.0848	576	175.5648	676	206.0448	776	236.5248	876	267.0048	976	297.4848
77	23.4696	177	53.9496	277	84.4296	377	114.9096	477	145.3896	577	175.8696	677	206.3496	777	236.8296	877	267.3096	977	297.7896
78	23.7744	178	54.2544	278	84.7344	378	115.2144	478	145.6944	578	176.1744	678	206.6544	778	237.1344	878	267.6144	978	298.0944
79	24.0792	179	54.5592	279	85.0392	379	115.5192	479	145.9992	579	176.4792	679	206.9592	779	237.4392	879	267.9192	979	298.3992
80	24.3840	180	54.8640	280	85.3440	380	115.8240	480	146.3040	580	176.7840	680	207.2640	780	237.7440	880	268.2240	980	298.7040
81	24.6888	181	55.1688	281	85.6488	381	116.1288	481	146.6088	581	177.0888	681	207.5688	781	238.0488	881	268.5288	981	299.0088
82	24.9936	182	55.4736	282	85.9536	382	116.4336	482	146.9136	582	177.3936	682	207.8736	782	238.3536	882	268.8336	982	299.3136
83	25.2984	183	55.7784	283	86.2584	383	116.7384	483	147.2184	583	177.6984	683	208.1784	783	238.6584	883	269.1384	983	299.6184
84	25.6032	184	56.0832	284	86.5632	384	117.0432	484	147.5232	584	178.0032	684	208.4832	784	238.9632	884	269.4432	984	299.9232
85	25.9080	185	56.3880	285	86.8680	385	117.3480	485	147.8280	585	178.3080	685	208.7880	785	239.2680	885	269.7480	985	300.2280
86	26.2128	186	56.6928	286	87.1728	386	117.6528	486	148.1328	586	178.6128	686	209.0928	786	239.5728	886	270.0528	986	300.5328
87	26.5176	187	56.9976	287	87.4776	387	117.9576	487	148.4376	587	178.9176	687	209.3976	787	239.8776	887	270.3576	987	300.8376
88	26.8224	188	57.3024	288	87.7824	388	118.2624	488	148.7424	588	179.2224	688	209.7024	788	240.1824	888	270.6624	988	301.1424
89	27.1272	189	57.6072	289	88.0872	389	118.5672	489	149.0472	589	179.5272	689	210.0072	789	240.4872	889	270.9672	989	301.4472
90	27.4320	190	57.9120	290	88.3920	390	118.8720	490	149.3520	590	179.8320	690	210.3120	790	240.7920	890	271.2720	990	301.7520
91	27.7368	191	58.2168	291	88.6968	391	119.1768	491	149.6568	591	180.1368	691	210.6168	791	241.0968	891	271.5768	991	302.0568
92	28.0416	192	58.5216	292	89.0016	392	119.4816	492	149.9616	592	180.4416	692	210.9216	792	241.4016	892	271.8816	992	302.3616
93	28.3464	193	58.8264	293	89.3064	393	119.7864	493	150.2664	593	180.7464	693	211.2264	793	241.7064	893	272.1864	993	302.6664
94	28.6512	194	59.1312	294	89.6112	394	120.0912	494	150.5712	594	181.0512	694	211.5312	794	242.0112	894	272.4912	994	302.9712
95	28.9560	195	59.4360	295	89.9160	395	120.3960	495	150.8760	595	181.3560	695	211.8360	795	242.3160	895	272.7960	995	303.2760
96	29.2608	196	59.7408	296	90.2208	396	120.7008	496	151.1808	596	181.6608	696	212.1408	796	242.6208	896	273.1008	996	303.5808
97	29.5656	197	60.0456	297	90.5256	397	121.0056	497	151.4856	597	181.9656	697	212.4456	797	242.9256	897	273.4056	997	303.8856
98	29.8704	198	60.3504	298	90.8304	398	121.3104	498	151.7904	598	182.2704	698	212.7504	798	243.2304	898	273.7104	998	304.1904
99	30.1752	199	60.6552	299	91.1352	399	121.6152	499	152.0952	599	182.5752	699	213.0552	799	243.5352	899	274.0152	999	304.4952

[Reduction Factor: 1 meter = 3.280 839 895 feet]

30

50	164.04199	150	492.12598	250	820.20997	350	1148.20396	450	1476.37795	550	1804.46194	650	2132.54593	750	2460.62992	850	2788.71391	950	3116.79790
51	170.60367	151	495.40882	251	823.49081	351	1151.57480	451	1479.65879	551	1811.02362	651	2135.82677	751	2463.91076	851	2791.99475	951	3120.07874
52	176.60367	152	498.68766	252	826.77161	352	1154.85504	452	1482.85963	552	1817.40446	652	2139.10761	752	2467.19160	852	2795.27559	952	3123.35958
53	177.88451	153	501.96850	253	830.05249	353	1158.13648	453	1486.22047	553	1818.75830	653	2142.38849	753	2470.47244	853	2798.55643	953	3126.64042
54	177.16535	154	505.24934	254	833.33333	354	1161.41732	454	1489.50131	554	1821.00446	654	2145.66929	754	2473.73238	854	2801.83727	954	3129.92126
55	180.44703	155	508.53018	255	836.61417	355	1164.69816	455	1492.76219	555	1824.26618	655	2148.95013	755	2477.03412	855	2805.11811	955	3133.20210
56	183.74610	156	511.81102	256	839.89501	356	1167.98010	456	1496.02899	556	1827.48894	656	2152.23097	756	2480.31496	856	2808.39805	956	3136.48294
57	187.00787	157	515.09186	257	843.17585	357	1171.25984	457	1499.34383	557	1830.72782	657	2155.51181	757	2483.59580	857	2811.67979	957	3139.76378
58	190.28871	158	518.37270	258	846.45669	358	1174.54968	458	1502.62467	558	1837.00866	658	2158.79265	758	2486.87664	858	2814.96063	958	3143.04462
59	193.56955	159	521.65354	259	849.73753	359	1177.82152	459	1505.90551	559	1838.28850	659	2162.07349	759	2490.15748	859	2818.24147	959	3146.32546
60	196.85039	160	524.93328	260	853.01837	360	1181.10236	460	1509.18635	560	1837.27034	660	2165.35433	760	2493.43832	860	2821.52231	960	3149.60630
61	200.13123	161	528.21522	261	856.29921	361	1184.38320	461	1512.46719	561	1840.55118	661	2168.63517	761	2496.71915	861	2824.80315	961	3152.88714
62	203.41207	162	531.49606	262	859.58005	362	1187.66404	462	1515.74803	562	1843.83202	662	2171.91601	762	2500.00000	862	2828.08399	962	3156.16798
63	206.69291	163	534.77690	263	862.86089	363	1190.94488	463	1519.02887	563	1847.11866	663	2175.19685	763	2503.28084	863	2831.36483	963	3159.44882
64	209.97375	164	538.05774	264	866.14173	364	1194.22572	464	1522.30915	564	1850.39370	664	2178.47769	764	2506.56168	864	2834.64567	964	3162.72966
65	213.25459	165	541.33858	265	869.42257	365	1197.50656	465	1525.59075	565	1853.67454	665	2181.75853	765	2509.84252	865	2837.92651	965	3166.01050
66	216.53543	166	544.61942	266	872.70341	366	1200.78740	466	1528.87139	566	1856.95338	666	2185.03937	766	2513.12336	866	2841.20735	966	3169.29134
67	219.81627	167	547.90026	267	875.98425	367	1204.06824	467	1532.15223	567	1860.23622	667	2188.32021	767	2516.40420	867	2844.48819	967	3172.57218
68	223.09711	168	551.18110	268	879.26509	368	1207.34908	468	1535.43307	568	1863.51706	668	2191.60105	768	2519.68504	868	2847.76903	968	3175.85302
69	226.37795	169	554.46194	269	882.54593	369	1210.62992	469	1538.71391	569	1866.79790	669	2194.88189	769	2522.96588	869	2851.01987	969	3179.13386
70	229.65879	170	557.74278	270	885.82677	370	1213.91076	470	1541.99475	570	1870.07874	670	2198.16273	770	2526.24672	870	2854.33071	970	3182.41426
71	232.93963	171	561.02362	271	889.10761	371	1217.19160	471	1545.27559	571	1873.35958	671	2201.44357	771	2529.52756	871	2857.61155	971	3185.69554
72	236.22047	172	564.30446	272	892.38845	372	1220.47244	472	1548.55643	572	1876.64042	672	2204.72441	772	2532.80840	872	2860.89239	972	3188.97638
73	239.50131	173	567.58530	273	895.66929	373	1223.75328	473	1551.83727	573	1879.92126	673	2208.00525	773	2536.08924	873	2864.17323	973	3192.25732
74	242.78215	174	570.86614	274	898.95013	374	1227.03412	474	1555.11811	574	1883.20210	674	2211.28609	774	2539.37008	874	2867.45407	974	3195.53806
75	246.06299	175	574.14698	275	902.23097	375	1230.31496	475	1558.39895	575	1886.48294	675	2214.56693	775	2542.65092	875	2870.73491	975	3198.81890
76	249.34383	176	577.42782	276	905.51181	376	1233.59580	476	1561.67979	576	1889.76378	676	2217.84777	776	2545.93176	876	2874.01575	976	3202.09974
77	252.62467	177	580.70866	277	908.79265	377	1236.87664	477	1564.96063	577	1893.04462	677	2221.12861	777	2549.21260	877	2877.29659	977	3205.38058
78	255.90551	178	583.98950	278	912.07349	378	1240.15748	478	1568.24147	578	1896.32546	678	2224.40945	778	2552.49344	878	2880.57743	978	3208.66142
79	259.18635	179	587.27034	279	915.35433	379	1243.43832	479	1571.52231	579	1899.60630	679	2227.69029	779	2555.77428	879	2883.85827	979	3211.94226
80	262.46719	180	590.55118	280	918.63517	380	1246.71916	480	1574.80315	580	1902.88714	680	2230.97113	780	2559.05512	880	2887.13911	980	3215.22310
81	265.74803	181	593.83202	281	921.91601	381	1250.00000	481	1578.08399	581	1906.16798	681	2234.25197	781	2562.33596	881	2890.41995	981	3218.50394
82	269.02887	182	597.11286	282	925.19685	382	1253.28084	482	1581.36483	582	1909.44882	682	2237.53281	782	2565.61680	882	2893.70079	982	3221.78478
83	272.30971	183	600.39370	283	928.47769	383	1256.56168	483	1584.64567	583	1912.72966	683	2240.81365	783	2568.89764	883	2896.98163	983	3225.06562
84	275.59055	184	603.67454	284	931.75853	384	1259.84252	484	1587.92651	584	1916.01050	684	2244.09449	784	2572.17848	884	2900.26247	984	3228.34646
85	278.87139	185	606.95538	285	935.03937	385	1263.12336	485	1591.20735	585	1919.29134	685	2247.37533	785	2575.45932	885	2903.54331	985	3231.62730
86	282.15223	186	610.23622	286	938.32021	386	1266.40420	486	1594.48819	586	1922.57218	686	2250.65617	786	2578.74016	886	2906.82415	986	3234.90814
87	285.43307	187	613.51706	287	941.60105	387	1269.68504	487	1597.76903	587	1925.85302	687	2253.93701	787	2582.02100	887	2910.10499	987	3238.18898
88	288.71391	188	616.79790	288	944.88189	388	1272.96588	488	1601.04987	588	1929.13886	688	2257.21785	788	2585.30184	888	2913.38583	988	3241.46982
89	291.99475	189	620.07874	289	948.16273	389	1276.24672	489	1604.33071	589	1932.41470	689	2260.49869	789	2588.58266	889	2916.66667	989	3244.75066
90	295.27559	190	623.35958	290	951.44357	390	1279.52756	490	1607.61155	590	1935.69554	690	2263.77953	790	2591.86352	890	2919.94751	990	3248.03150
91	298.55643	191	626.64042	291	954.72441	391	1282.80840	491	1610.89239	591	1938.97638	691	2267.06037	791	2595.14436	891	2923.22835	991	3251.31234
92	301.83727	192	629.92126	292	958.00525	392	1286.08924	492	1614.17323	592	1942.25792	692	2270.34121	792	2598.42520	892	2926.50919	992	3254.59318
93	305.11811	193	633.20210	293	961.28609	393	1289.37008	493	1617.45407	593	1945.53806	693	2273.62205	793	2601.70604	893	2929.79083	993	3257.87402
94	308.39895	194	636.48294	294	964.56693	394	1292.65092	494	1620.73491	594	1948.81890	694	2276.90289	794	2604.98688	894	2933.07087	994	3261.15486
95	311.67979	195	639.76378	295	967.84777	395	1295.93176	495	1624.01575	595	1952.09974	695	2280.18373	795	2608.26772	895	2936.35171	995	3264.43570
96	314.96063	196	643.04462	296	971.12861	396	1299.21260	496	1627.29659	596	1955.38058	696	2283.46457	796	2611.54856	896	2939.63255	996	3267.71654
97	318.24147	197	646.32546	297	974.40945	397	1302.49344	497	1630.57743	597	1958.66142	697	2286.74541	797	2614.82940	897	2942.91339	997	3270.99738
98	321.52231	198	649.60630	298	977.69029	398	1305.77428	498	1633.85827	598	1961.94226	698	2290.02625	798	2618.11024	898	2946.19423	998	3274.27822
99	324.80315	199	652.88714	299	980.97113	399	1309.05512	499	1637.13911	599	1965.22310	699	2293.30709	799	2621.39108	899	2949.47507	999	3277.55906

9.3. LENGTH—YARDS TO METERS

Yards		Meters		Yards		Meters		Yards		Meters		Yards		Meters		Yards		Meters	
Yards	Meters	Yards	Meters	Yards	Meters	Yards	Meters	Yards	Meters	Yards	Meters	Yards	Meters	Yards	Meters	Yards	Meters	Yards	Meters
0	0.9144	100	91.4400	200	182.8800	300	274.3200	400	365.7600	500	457.2000	600	548.6400	700	640.0800	800	731.5200	900	822.9600
1	0.9144	101	92.3544	201	183.7944	301	275.2300	401	366.6744	501	458.1144	601	549.5544	701	641.0944	801	732.4344	901	823.8744
2	1.8288	102	93.2688	202	184.7088	302	276.1488	402	367.5888	502	459.0288	602	550.4688	702	642.0388	802	733.3488	902	824.7888
3	2.7432	103	94.1832	203	185.6232	303	277.0632	403	368.5032	503	460.9432	603	551.3832	703	643.0532	803	734.2588	903	825.7032
4	3.6576	104	95.0976	204	186.5376	304	277.9776	404	369.4176	504	461.8576	604	552.2976	704	643.9676	804	735.1688	904	826.6176
5	4.5720	105	96.0120	205	187.4520	305	278.8920	405	370.3320	505	462.7720	605	553.2120	705	644.8820	805	736.0780	905	827.5320
6	5.4864	106	96.9264	206	188.3664	306	279.8064	406	371.2464	506	463.6864	606	554.1264	706	645.7964	806	736.9924	906	828.4464
7	6.4008	107	97.8408	207	189.2808	307	280.7208	407	372.1608	507	464.6008	607	555.0408	707	646.7068	807	737.9208	907	829.3608
8	7.3152	108	98.7552	208	190.1952	308	281.6352	408	373.0752	508	465.5152	608	555.9552	708	647.6208	808	738.8352	908	830.2752
9	8.2296	109	99.6696	209	191.1096	309	282.5496	409	373.9896	509	466.4296	609	556.8696	709	648.5396	809	739.7496	909	831.1896
10	9.1440	110	100.5840	210	192.0240	310	283.4640	410	374.9040	510	467.3440	610	557.7840	710	649.4440	810	740.6640	910	832.1040
11	10.0584	111	101.4984	211	192.9384	311	284.3784	411	375.8184	511	468.2584	611	558.6984	711	650.3584	811	741.5784	911	833.0184
12	10.9728	112	102.4128	212	193.8528	312	285.2928	412	376.7328	512	469.1728	612	559.6128	712	651.2688	812	742.4928	912	833.9328
13	11.8872	113	103.3272	213	194.7672	313	286.2072	413	377.6472	513	470.0872	613	560.5272	713	652.1788	813	743.4072	913	834.8472
14	12.8016	114	104.2416	214	195.6816	314	287.1216	414	378.5616	514	471.0016	614	561.4416	714	653.0880	814	744.3216	914	835.7616
15	13.7160	115	105.1560	215	196.5960	315	288.0360	415	379.4760	515	471.9160	615	562.3560	715	653.9960	815	745.2360	915	836.6760
16	14.6304	116	106.0704	216	197.5104	316	288.9504	416	380.3904	516	472.8304	616	563.2704	716	654.9104	816	746.1504	916	837.5904
17	15.5448	117	106.9848	217	198.4248	317	289.8648	417	381.3048	517	473.7448	617	564.1848	717	655.8248	817	747.0648	917	838.5048
18	16.4592	118	107.8992	218	199.3392	318	290.7792	418	382.2192	518	474.6592	618	565.0992	718	656.7392	818	747.9792	918	839.4192
19	17.3736	119	108.8136	219	200.2536	319	291.6936	419	383.1336	519	475.5736	619	566.0136	719	657.6536	819	748.8936	919	840.3336
20	18.2880	120	109.7280	220	201.1680	320	292.6080	420	384.0480	520	476.4880	620	566.9280	720	658.5680	820	749.8080	920	841.2480
21	19.2024	121	110.6424	221	202.0824	321	293.5224	421	384.9624	521	477.4024	621	567.8424	721	659.4824	821	750.7224	921	842.1624
22	20.1168	122	111.5568	222	202.9968	322	294.4368	422	385.8768	522	478.3168	622	568.7568	722	660.3968	822	751.6368	922	843.0768
23	21.0312	123	112.4712	223	203.9112	323	295.3512	423	386.7912	523	479.2312	623	569.6712	723	661.3112	823	752.5512	923	843.9912
24	21.9456	124	113.3856	224	204.8256	324	296.2656	424	387.7056	524	480.1456	624	570.5856	724	662.2256	824	753.4656	924	844.9056
25	22.8600	125	114.3000	225	205.7400	325	297.1800	425	388.6200	525	481.0600	625	571.5000	725	663.1400	825	754.3800	925	845.8200
26	23.7744	126	115.2144	226	206.6544	326	298.0944	426	389.5344	526	481.9744	626	572.4144	726	664.0544	826	755.2944	926	846.7344
27	24.6888	127	116.1288	227	207.5688	327	299.0088	427	390.4488	527	482.8888	627	573.3288	727	664.9688	827	756.2088	927	847.6488
28	25.6032	128	117.0432	228	208.4832	328	299.9232	428	391.3632	528	483.8032	628	574.2432	728	665.8832	828	757.1232	928	848.5632
29	26.5176	129	117.9576	229	209.3976	329	300.8376	429	392.2776	529	483.7176	629	575.1576	729	666.7976	829	758.0376	929	849.4776
30	27.4320	130	118.8720	230	210.3120	330	301.7520	430	393.1920	530	484.6320	630	576.0720	730	667.7120	830	758.9520	930	850.3920
31	28.3464	131	119.7864	231	211.2264	331	302.6664	431	394.1064	531	485.5464	631	576.9864	731	668.6264	831	759.8664	931	851.3064
32	29.2608	132	120.7008	232	212.1408	332	303.5808	432	395.0208	532	486.4608	632	577.9008	732	669.5408	832	760.7808	932	852.2208
33	30.1752	133	121.6152	233	213.0552	333	304.4952	433	395.9352	533	487.3752	633	578.8152	733	670.4552	833	761.6952	933	853.1352
34	31.0896	134	122.5296	234	213.9696	334	305.4096	434	396.8496	534	488.2896	634	579.7296	734	671.3696	834	762.6096	934	854.0496
35	32.0040	135	123.4440	235	214.8840	335	306.3240	435	397.7640	535	489.2040	635	580.6440	735	672.2840	835	763.5240	935	854.9640
36	32.9184	136	124.3584	236	215.7984	336	307.2384	436	398.6784	536	490.1184	636	581.5584	736	673.1984	836	764.4384	936	855.8784
37	33.8328	137	125.2728	237	216.7128	337	308.1528	437	399.5928	537	491.0328	637	582.4728	737	674.1084	837	765.3528	937	856.7928
38	34.7472	138	126.1872	238	217.6272	338	309.0672	438	400.5072	538	491.9472	638	583.3872	738	675.0184	838	766.2672	938	857.7072
39	35.6616	139	127.1016	239	218.5416	339	309.9816	439	401.4216	539	492.8616	639	584.3016	739	675.9316	839	767.1816	939	858.6216
40	36.5760	140	128.0160	240	219.4560	340	310.8960	440	402.3360	540	493.7760	640	585.2160	740	676.8560	840	768.0960	940	859.5360
41	37.4904	141	128.9304	241	220.3704	341	311.8104	441	403.2504	541	494.6904	641	586.1304	741	677.7704	841	769.0104	941	860.4504
42	38.4048	142	129.8448	242	221.2848	342	312.7248	442	404.1648	542	495.6048	642	587.0448	742	678.6848	842	769.9248	942	861.3648
43	39.3192	143	130.7592	243	222.1992	343	313.6392	443	405.0792	543	496.5192	643	587.9592	743	679.5992	843	770.8392	943	862.2792
44	40.2336	144	131.6736	244	223.1136	344	314.5536	444	405.9936	544	497.4336	644	588.8736	744	680.5136	844	771.7536	944	863.1936
45	41.1480	145	132.5880	245	224.0280	345	315.4680	445	406.9080	545	498.3480	645	589.7880	745	681.4280	845	772.6680	945	864.1080
46	42.0624	146	133.5024	246	224.9424	346	316.3824	446	407.8224	546	499.2624	646	590.7024	746	682.3424	846	773.5824	946	865.0224
47	42.9768	147	134.4168	247	225.8568	347	317.2968	447	408.7368	547	500.1768	647	591.6168	747	683.2568	847	774.4968	947	865.9368
48	43.8912	148	135.3312	248	226.7712	348	318.2112	448	409.6512	548	501.0912	648	592.5312	748	684.1712	848	775.4112	948	866.8512
49	44.8056	149	136.2456	249	227.6856	349	319.1256	449	410.5656	549	502.0056	649	593.4456	749	685.0856	849	776.3256	949	867.7656

50	45.7200	150	137.1600	250	228.6000	350	320.0400	450	411.4800	550	502.9200	650	594.3900	750	685.8000	850	777.2400	950	868.6800
51	46.6344	151	138.0744	251	229.5144	351	320.9544	451	412.3944	551	503.8344	651	595.2744	751	686.7144	851	778.1544	951	869.5944
52	47.5488	152	138.9888	252	230.4288	352	321.8688	452	413.3088	552	504.7488	652	596.1888	752	687.6288	852	779.0688	952	870.5088
53	48.4632	153	139.9032	253	231.3432	353	322.7832	453	414.2232	553	505.6632	653	597.1032	753	688.5432	853	779.9888	953	871.4232
54	49.3776	154	140.8176	254	232.2576	354	323.6976	454	415.1376	554	506.5776	654	598.0176	754	689.4676	854	780.9076	954	872.3376
55	50.2920	155	141.7320	255	233.1720	355	324.6120	455	416.0520	555	507.4920	655	598.9320	755	690.3720	855	781.8220	955	873.2520
56	51.2064	156	142.6464	256	234.0864	356	325.5264	456	416.9664	556	508.4064	656	599.8464	756	691.2864	856	782.7364	956	874.1664
57	52.1208	157	143.5608	257	235.0008	357	326.4408	457	417.8808	557	509.3208	657	600.7608	757	692.2008	857	783.6508	957	875.0808
58	53.0352	158	144.4752	258	235.9152	358	327.3552	458	418.7952	558	510.2352	658	601.6752	758	693.1152	858	784.5652	958	875.9952
59	53.9496	159	145.3896	259	236.8296	359	328.2696	459	419.7096	559	511.1496	659	602.5896	759	694.0296	859	785.4896	959	876.9096
60	54.8640	160	146.3040	260	237.7440	360	329.1840	460	420.6240	560	512.0640	660	603.5040	760	694.9440	860	786.3840	960	877.8240
61	55.7784	161	147.2184	261	238.6584	361	330.0984	461	421.5384	561	512.9784	661	604.4184	761	695.8584	861	787.2984	961	878.7384
62	56.6928	162	148.1328	262	239.5728	362	331.0128	462	422.4528	562	513.8928	662	605.3328	762	696.7728	862	788.2128	962	879.6528
63	57.6072	163	149.0472	263	240.4872	363	331.9272	463	423.3672	563	514.8072	663	606.2472	763	697.6872	863	789.1272	963	880.5672
64	58.5216	164	149.9616	264	241.4016	364	332.8416	464	424.2816	564	515.7216	664	607.1616	764	698.6016	864	790.0416	964	881.4816
65	59.4360	165	150.8760	265	242.3160	365	333.7560	465	425.1960	565	516.6360	665	608.0760	765	699.5160	865	790.9560	965	882.3960
66	60.3504	166	151.7904	266	243.2304	366	334.6704	466	426.1104	566	517.5504	666	608.9904	766	700.4304	866	791.8704	966	883.3104
67	61.2648	167	152.7048	267	244.1448	367	335.5848	467	427.0248	567	518.4648	667	609.9048	767	701.3448	867	792.7848	967	884.2248
68	62.1792	168	153.6192	268	245.0592	368	336.4992	468	427.9392	568	519.3792	668	610.8192	768	702.2592	868	793.6992	968	885.1392
69	63.0936	169	154.5336	269	245.9736	369	337.4136	469	428.8536	569	520.2936	669	611.7336	769	703.1736	869	794.6136	969	886.0536
70	64.0080	170	155.4480	270	246.8880	370	338.3280	470	429.7680	570	521.2080	670	612.6480	770	704.0880	870	795.5280	970	886.9680
71	64.9224	171	156.3624	271	247.8024	371	339.2424	471	430.6824	571	522.1224	671	613.5624	771	705.0024	871	796.4424	971	887.8824
72	65.8368	172	157.2768	272	248.7168	372	340.1568	472	431.5968	572	523.0368	672	614.4768	772	705.9168	872	797.3568	972	888.7968
73	66.7512	173	158.1912	273	249.6312	373	341.0712	473	432.5112	573	523.9512	673	615.3912	773	706.8312	873	798.2712	973	889.7112
74	67.6656	174	159.1056	274	250.5456	374	341.9856	474	433.4256	574	524.8656	674	616.3056	774	707.7456	874	799.1856	974	890.6256
75	68.5800	175	160.0200	275	251.4600	375	342.9000	475	434.3400	575	525.7800	675	617.2200	775	708.6600	875	800.1000	975	891.5400
76	69.4944	176	160.9344	276	252.3744	376	343.8144	476	435.2544	576	526.6944	676	618.1344	776	709.5744	876	801.0144	976	892.4544
77	70.4088	177	161.8488	277	253.2888	377	344.7288	477	436.1688	577	527.6088	677	619.0488	777	710.4888	877	801.9288	977	893.3688
78	71.3232	178	162.7632	278	254.2032	378	345.6432	478	437.0832	578	528.5232	678	619.9632	778	711.4032	878	802.8432	978	894.2832
79	72.2376	179	163.6776	279	255.1176	379	346.5576	479	437.9976	579	529.4376	679	620.8776	779	712.3176	879	803.7576	979	895.1976
80	73.1520	180	164.5920	280	256.0320	380	347.4720	480	438.9120	580	530.3520	680	621.7920	780	713.2320	880	804.6720	980	896.1120
81	74.0664	181	165.5064	281	256.9464	381	348.3864	481	439.8264	581	531.2664	681	622.7064	781	714.1464	881	805.5864	981	897.0264
82	74.9808	182	166.4208	282	257.8608	382	349.3008	482	440.7408	582	532.1808	682	623.6208	782	715.0608	882	806.5008	982	897.9408
83	75.8952	183	167.3352	283	258.7752	383	350.2152	483	441.6552	583	533.0952	683	624.5352	783	715.9752	883	807.4152	983	898.8552
84	76.8096	184	168.2496	284	259.6896	384	351.1296	484	442.5696	584	534.0096	684	625.4496	784	716.8896	884	808.3296	984	899.7696
85	77.7240	185	169.1640	285	260.6040	385	352.0440	485	443.4840	585	534.9240	685	626.3640	785	717.8040	885	809.2440	985	900.6840
86	78.6384	186	170.0784	286	261.5184	386	352.9584	486	444.3984	586	535.8384	686	627.2784	786	718.7184	886	810.1584	986	901.5984
87	79.5528	187	170.9928	287	262.4328	387	353.8728	487	445.3128	587	536.7528	687	628.1928	787	719.6328	887	811.0728	987	902.5128
88	80.4672	188	171.9072	288	263.3472	388	354.7872	488	446.2272	588	537.6672	688	629.1072	788	720.5472	888	811.9872	988	903.4272
89	81.3816	189	172.8216	289	264.2616	389	355.7016	489	447.1416	589	538.5816	689	630.0216	789	721.4616	889	812.9016	989	904.3416
90	82.2960	190	173.7360	290	265.1760	390	356.6160	490	448.0560	590	539.4960	690	630.9360	790	722.3760	890	813.8160	990	905.2560
91	83.2104	191	174.6504	291	266.0904	391	357.5304	491	448.9704	591	540.4104	691	631.8504	791	723.2904	891	814.7304	991	906.1704
92	84.1248	192	175.5648	292	267.0048	392	358.4448	492	449.8848	592	541.3248	692	632.7648	792	724.2048	892	815.6448	992	907.0848
93	85.0392	193	176.4792	293	267.9192	393	359.3592	493	450.7992	593	542.2392	693	633.6792	793	725.1192	893	816.5592	993	907.9992
94	85.9536	194	177.3936	294	268.8336	394	360.2736	494	451.7136	594	543.1536	694	634.5936	794	726.0336	894	817.4736	994	908.9136
95	86.8680	195	178.3080	295	269.7480	395	361.1880	495	452.6280	595	544.0680	695	635.5080	795	726.9480	895	818.3880	995	909.8280
96	87.7824	196	179.2224	296	270.6624	396	362.1024	496	453.5424	596	544.9824	696	636.4224	796	727.8624	896	819.3024	996	910.7424
97	88.6968	197	180.1368	297	271.5768	397	363.0168	497	454.4568	597	545.8968	697	637.3368	797	728.7768	897	820.2168	997	911.6568
98	89.6112	198	181.0512	298	272.4912	398	363.9312	498	455.3712	598	546.8112	698	638.2512	798	729.6912	898	821.1312	998	912.5712
99	90.5256	199	181.9656	299	273.4056	399	364.8456	499	456.2856	599	547.7256	699	639.1656	799	730.6056	899	822.0456	999	913.4856

[Reduction Factor: 1 meter = 1.093 613 298 yards]

34

50	54.68066	150	164.04199	250	273.40332	350	352.76465	450	492.12598	550	601.48731	650	710.84864	750	820.20997	850	929.57130	950	1038.93263
51	55.77428	151	165.13501	251	274.49694	351	383.85827	451	493.21960	551	602.58093	651	711.94226	751	821.30359	851	930.66492	951	1041.02625
52	56.86789	152	166.22922	252	275.59055	352	384.95188	452	494.31361	552	603.67454	652	713.03587	752	822.39720	852	931.75553	952	1042.11986
53	57.96150	153	167.32283	253	276.68416	353	386.04349	453	495.40682	553	604.76815	653	714.12948	753	823.49081	853	932.84574	953	1043.21347
54	59.05512	154	168.41645	254	277.77778	354	387.13611	454	496.50044	554	605.86177	654	715.22310	754	824.58443	854	933.94516	954	1044.30709
55	60.14873	155	169.51006	255	278.87139	355	388.22722	455	497.59405	555	606.96588	655	716.31673	755	825.67804	855	935.03937	955	1045.40070
56	61.24234	156	170.60367	256	279.96500	356	389.32633	456	498.68766	556	608.04899	656	717.41032	756	826.77165	856	936.13298	956	1046.49431
57	62.33596	157	171.69729	257	281.05862	357	390.41995	457	499.78128	557	609.14261	657	718.50394	757	827.86527	857	937.22660	957	1047.58793
58	63.42957	158	172.79090	258	282.15223	358	391.51356	458	500.87489	558	610.23622	658	719.59755	758	828.95888	858	938.32021	958	1048.68154
59	64.52318	159	173.88451	259	283.24584	359	392.60717	459	501.96850	559	611.32983	659	720.69116	759	830.05249	859	939.41382	959	1049.77515
60	65.61680	160	174.97813	260	284.33946	360	393.70079	460	503.06212	560	612.42345	660	721.78478	760	831.14611	860	940.50744	960	1050.86877
61	66.71041	161	176.07174	261	285.43307	361	394.79440	461	504.15673	561	613.51706	661	722.87839	761	832.23972	861	941.60105	961	1051.96238
62	67.80402	162	177.16535	262	286.52668	362	395.98801	462	505.24934	562	614.61067	662	723.97200	762	833.33333	862	942.69466	962	1053.05599
63	68.89764	163	178.25897	263	287.62030	363	396.98103	463	506.34296	563	615.70429	663	725.06562	763	834.42695	863	943.78828	963	1054.14961
64	69.99125	164	179.35258	264	288.71391	364	398.07524	464	507.43657	564	616.79790	664	726.15923	764	835.52056	864	944.88189	964	1055.24322
65	71.08486	165	180.44619	265	289.80752	365	399.16885	465	508.53018	565	617.89151	665	727.25284	765	836.61417	865	945.97550	965	1056.33683
66	72.17848	166	181.53981	266	290.90114	366	400.26247	466	509.62380	566	618.98513	666	728.34646	766	837.70779	866	947.06912	966	1057.43045
67	73.27209	167	182.63342	267	291.99475	367	401.35608	467	510.71741	567	620.07874	667	729.44007	767	838.80140	867	948.16273	967	1058.52406
68	74.36570	168	183.72703	268	293.08836	368	402.44969	468	511.81002	568	621.17255	668	730.53308	768	839.89501	868	949.25634	968	1059.61767
69	75.45932	169	184.82065	269	294.18198	369	403.54331	469	512.90464	569	622.26597	669	731.62730	769	840.98863	869	950.34996	969	1060.71129
70	76.55293	170	185.91426	270	295.27559	370	404.63692	470	513.99825	570	623.35938	670	732.72091	770	842.08224	870	951.44357	970	1061.80490
71	77.64654	171	187.00787	271	296.36920	371	405.73053	471	515.09186	571	624.45319	671	733.81452	771	843.17585	871	952.53718	971	1062.89851
72	78.74016	172	188.10149	272	297.46282	372	406.82415	472	516.18548	572	625.54681	672	734.90814	772	844.26947	872	953.63080	972	1063.99213
73	79.83377	173	189.19510	273	298.55643	373	407.91776	473	517.27909	573	626.64042	673	736.00175	773	845.36308	873	954.72441	973	1065.08574
74	80.92738	174	190.28871	274	299.65004	374	409.01137	474	518.37270	574	627.73403	674	737.09536	774	846.45669	874	955.81802	974	1066.17935
75	82.02100	175	191.38233	275	300.74366	375	410.10499	475	519.46632	575	628.82765	675	738.18898	775	847.55031	875	956.91164	975	1067.27297
76	83.11461	176	192.47594	276	301.83727	376	411.19860	476	520.55993	576	629.92126	676	739.28259	776	848.64392	876	958.00525	976	1068.36658
77	84.20822	177	193.56955	277	302.93068	377	412.29221	477	521.65354	577	631.01487	677	740.37620	777	849.73753	877	959.09886	977	1069.46019
78	85.30184	178	194.66317	278	304.02450	378	413.38583	478	522.74716	578	632.10849	678	741.46982	778	850.83115	878	960.19248	978	1070.55381
79	86.39545	179	195.75678	279	305.11811	379	414.47944	479	523.84077	579	633.20210	679	742.56343	779	851.92476	879	961.28609	979	1071.64742
80	87.48906	180	196.85039	280	306.21172	380	415.57305	480	524.93438	580	634.29571	680	743.65704	780	853.01837	880	962.37970	980	1072.74103
81	88.58268	181	197.94401	281	307.30534	381	416.66667	481	526.02800	581	635.38933	681	744.75066	781	854.11199	881	963.47332	981	1073.83465
82	89.67629	182	199.03762	282	308.39895	382	417.76028	482	527.12161	582	636.48294	682	745.84427	782	855.20560	882	964.56693	982	1074.92826
83	90.76990	183	200.13123	283	309.49256	383	418.85389	483	528.21522	583	637.57655	683	746.93788	783	856.29921	883	965.66054	983	1076.02187
84	91.86352	184	201.22486	284	310.58618	384	419.94751	484	529.30884	584	638.67017	684	748.03190	784	857.39283	884	966.75416	984	1077.11549
85	92.95713	185	202.31846	285	311.67979	385	421.04112	485	530.40245	585	639.76378	685	749.12511	785	858.48644	885	967.84777	985	1078.20910
86	94.05074	186	203.41207	286	312.77340	386	422.13473	486	531.49606	586	640.85739	686	750.21872	786	859.58005	886	968.94138	986	1079.30271
87	95.14436	187	204.50569	287	313.86702	387	423.22835	487	532.58968	587	641.95101	687	751.31294	787	860.67367	887	970.03500	987	1080.39633
88	96.23797	188	205.59930	288	314.96063	388	424.32196	488	533.68329	588	643.04462	688	752.40595	788	861.76728	888	971.12861	988	1081.48994
89	97.33158	189	206.69291	289	316.05424	389	425.41557	489	534.77690	589	644.13823	689	753.49959	789	862.86089	889	972.22222	989	1082.58355
90	98.42520	190	207.78653	290	317.14786	390	426.50919	490	535.87052	590	645.23185	690	754.59318	790	863.95451	890	973.31584	990	1083.67717
91	99.51881	191	208.88014	291	318.24147	391	427.60280	491	536.96413	591	646.32546	691	755.68679	791	865.04812	891	974.40945	991	1084.77078
92	100.61242	192	209.97375	292	319.33508	392	428.69641	492	538.05774	592	647.41907	692	756.78040	792	866.14173	892	975.50306	992	1085.86439
93	101.70604	193	211.06737	293	320.42870	393	429.79003	493	539.15136	593	648.51269	693	757.87402	793	867.23553	893	976.59668	993	1086.95800
94	102.79965	194	212.16098	294	321.52231	394	430.88364	494	540.24497	594	649.60630	694	758.96763	794	868.32896	894	977.69029	994	1088.05162
95	103.89326	195	213.25459	295	322.61592	395	431.97785	495	541.33858	595	650.69931	695	760.06124	795	869.42257	895	978.78390	995	1089.14523
96	104.98688	196	214.34821	296	323.70954	396	433.07087	496	542.43220	596	651.79353	696	761.15486	796	870.51619	896	979.87752	996	1090.23884
97	106.08049	197	215.44182	297	324.80315	397	434.16448	497	543.52581	597	652.88714	697	762.24847	797	871.60980	897	980.97174	997	1091.33246
98	107.17410	198	216.53543	298	325.89676	398	435.25809	498	544.61942	598	653.98075	698	763.34208	798	872.70341	898	982.06613	998	1092.42607
99	108.26772	199	217.62905	299	326.99038	399	436.35171	499	545.71304	599	655.07437	699	764.43570	799	873.79703	899	983.15835	999	1093.51968

[Reduction Factor: 1 mile = 1.609 344 kilometers]

36

50	80	4672	150	241	4016	350	563	2704	450	724	2048	550	885	1392	650	1046	0736	750	1207	0080	850	1367	9424	950	1528	8768
51	82	0765	131	243	0109	351	564	8767	451	725	8141	551	886	1485	651	1047	0829	751	1208	6173	851	1369	5517	951	1530	4861
52	83	6859	132	244	6203	352	565	4804	452	726	4235	552	887	3672	652	1048	2923	752	1210	2267	852	1371	1611	952	1532	0955
53	85	2952	133	246	2923	353	568	0884	453	729	0328	553	888	9679	653	1050	9016	753	1211	8360	853	1372	7704	953	1533	7048
54	86	9046	134	247	4480	354	569	7078	454	730	6422	554	891	5766	654	1052	5110	754	1213	4454	854	1374	3798	954	1535	3142
55	88	5139	154	249	4833	355	571	3171	455	732	2515	555	893	1859	655	1054	1203	755	1215	0547	855	1375	5981	955	1536	9235
56	90	1233	156	251	0577	356	572	9265	456	735	8009	556	894	7953	656	1055	7290	756	1216	6641	856	1377	5985	956	1538	5329
57	91	7326	157	252	6207	357	573	5358	457	735	4702	557	896	4046	657	1057	3390	757	1217	7334	857	1379	2078	957	1540	1422
58	93	9420	158	254	2764	358	576	1452	458	737	0796	558	898	0140	658	1058	9484	758	1218	8828	858	1380	8172	958	1541	7516
59	94	3613	159	255	8857	359	577	7645	459	738	6889	559	899	6233	659	1060	5577	759	1221	4921	859	1382	4265	959	1543	3609
60	96	5606	160	257	4950	360	579	3638	460	740	2982	560	901	2326	660	1062	1670	760	1223	1014	860	1384	0358	960	1544	0702
61	98	1700	161	259	1044	361	580	9732	461	741	9076	561	902	8413	661	1063	7764	761	1224	7108	861	1385	6452	961	1546	5766
62	99	7793	162	260	7137	362	582	5825	462	743	5169	562	904	4520	662	1065	3857	762	1226	3201	862	1387	2545	962	1548	1889
63	101	3887	163	262	3924	363	584	1919	463	745	1263	563	906	0607	663	1066	9951	763	1227	9295	863	1388	8639	963	1549	7983
64	102	9980	164	263	8231	364	585	8012	464	746	7356	564	907	0700	664	1068	6044	764	1229	5388	864	1390	4732	964	1551	4076
65	104	6074	165	265	5411	365	587	4106	465	748	3450	565	909	2794	665	1070	2138	765	1231	1482	865	1392	0826	965	1553	0170
66	106	2167	166	267	1511	366	589	0109	466	749	9543	566	910	8887	666	1071	8231	766	1232	7575	866	1393	6919	966	1554	6263
67	107	8260	167	268	7604	367	590	6929	467	751	5636	567	912	4940	667	1073	4348	767	1234	3668	867	1395	3012	967	1556	3556
68	109	4354	168	270	3698	368	592	2386	468	753	1730	568	914	1074	668	1075	0418	768	1235	9762	868	1396	9106	968	1557	8450
69	111	0447	169	271	0791	369	593	8479	469	754	7823	569	915	7167	669	1076	6511	769	1237	5855	869	1398	5199	969	1559	4543
70	112	6341	170	273	5885	370	595	4573	470	756	3917	570	917	3261	670	1078	2695	770	1239	1949	870	1400	1293	970	1561	0637
71	114	2634	171	275	1978	371	597	0666	471	758	0010	571	918	9354	671	1079	8698	771	1240	8042	871	1401	7386	971	1562	6730
72	115	8728	172	276	8072	372	598	6760	472	759	6104	572	920	5448	672	1081	4792	772	1242	4136	872	1403	3480	972	1564	2824
73	117	4821	173	278	4165	373	600	2853	473	761	2197	573	922	1541	673	1083	0885	773	1244	0259	873	1405	9573	973	1565	8017
74	119	0915	174	280	0259	374	601	8947	474	762	8291	574	923	7635	674	1084	6979	774	1245	6323	874	1406	5667	974	1567	5011
75	120	7008	175	281	6352	375	603	5040	475	764	4384	575	925	3728	675	1086	3072	775	1247	2416	875	1408	1760	975	1569	1104
76	122	3101	176	283	2445	376	605	1133	476	766	0477	576	926	9821	676	1087	9165	776	1248	8509	876	1409	7853	976	1570	7197
77	123	9195	177	284	5539	377	606	7227	477	767	6571	577	928	5915	677	1089	5259	777	1250	4603	877	1411	3947	977	1572	3291
78	125	5288	178	286	4632	378	608	3320	478	769	2664	578	930	2008	678	1091	1352	778	1252	0696	878	1413	0040	978	1573	9384
79	127	1382	179	288	0726	379	609	9414	479	770	8758	579	931	8102	679	1092	7446	779	1253	6790	879	1414	6134	979	1575	5478
80	128	7475	180	289	6819	380	611	5507	480	772	4851	580	933	4195	680	1094	3539	780	1255	2883	880	1416	2227	980	1577	1571
81	130	3569	181	291	2913	381	613	1601	481	774	0945	581	935	0289	681	1095	9633	781	1256	8977	881	1417	8321	981	1578	7665
82	131	9062	182	292	9006	382	614	7694	482	775	7038	582	936	6382	682	1097	5726	782	1258	5070	882	1419	4414	982	1580	3758
83	133	5756	183	294	5100	383	616	3788	483	777	3132	583	938	2476	683	1099	1820	783	1260	1164	883	1421	0508	983	1581	9852
84	135	1849	184	296	1193	384	617	9881	484	778	9225	584	939	8569	684	1100	7913	784	1261	7287	884	1422	6601	984	1583	5945
85	136	7942	185	297	7386	385	619	5974	485	780	5318	585	941	4662	685	1102	4006	785	1263	3350	885	1424	2694	985	1585	2038
86	138	4036	186	299	3380	386	621	2068	486	782	1412	586	943	0756	686	1104	0100	786	1264	9444	886	1425	8788	986	1586	8132
87	140	0129	187	300	9473	387	622	8161	487	783	7505	587	944	6849	687	1105	6193	787	1266	5537	887	1427	4881	987	1588	4225
88	141	6223	188	302	5567	388	624	4255	488	785	3599	588	946	2943	688	1107	2287	788	1268	1631	888	1429	0975	988	1590	0319
89	143	2316	189	304	1660	389	626	0348	489	786	9692	589	947	9036	689	1108	8390	789	1269	7724	889	1430	7068	989	1591	6412
90	144	8410	190	305	7754	390	627	6442	490	788	5786	590	949	5130	690	1110	4474	790	1271	3818	890	1432	3162	990	1593	2506
91	146	4503	191	307	3847	391	629	2535	491	790	1879	591	951	1223	691	1112	0567	791	1272	9911	891	1433	9255	991	1594	8599
92	148	0590	192	308	9040	392	630	8528	492	791	7972	592	952	7316	692	1113	6660	792	1274	6094	892	1435	5348	992	1596	4692
93	149	6960	193	310	0604	393	632	4732	493	793	4066	593	954	3410	693	1115	2754	793	1276	2008	893	1437	1442	993	1598	0786
94	151	2877	194	312	2127	394	634	0815	494	795	0159	594	955	9503	694	1116	9893	794	1277	8191	894	1438	7535	994	1599	0879
95	152	8877	195	313	8221	395	635	0909	495	796	6253	595	957	5597	695	1118	4941	795	1279	4285	895	1440	3629	995	1601	2973
96	154	1064	196	315	4314	396	637	3002	496	798	2346	596	959	1690	696	1120	1034	796	1281	0378	896	1441	9722	996	1602	9066
97	156	4974	197	317	0408	397	638	9096	497	799	8440	597	960	7784	697	1121	7128	797	1282	6472	897	1442	5816	997	1604	5160
98	157	7157	198	318	6501	398	640	5189	498	801	4533	598	962	3971	698	1123	3221	798	1284	2565	898	1445	1909	998	1606	1253
99	159	3251	199	320	2595	399	642	1283	499	803	0627	599	963	9877	699	1124	9315	799	1285	8659	899	1446	8003	999	1607	7347

[Reduction Factor: 1 kilometer = 0.621 371 1922 mile]

38

50	31.06856	150	93.20568	250	155.34280	350	217.47092	450	279.61704	550	341.75416	650	403.89127	750	466.02539	850	528.16551	950	590.30263
51	31.68993	151	93.82705	251	155.96417	351	218.10129	451	280.23841	551	342.27553	651	404.81265	751	466.67407	851	528.78688	951	590.92400
52	32.31130	152	94.44872	252	156.98594	352	219.33403	452	280.88178	552	342.99690	652	405.13402	752	467.27114	852	529.40828	952	591.54537
53	32.93267	153	95.06979	253	157.98594	353	219.56840	453	281.48315	553	343.61827	653	405.75539	753	467.89251	853	530.09965	953	592.16675
54	33.55404	154	95.69116	254	158.98594	354	219.80176	454	282.08452	554	344.23964	654	406.36766	754	468.51388	854	530.65100	954	592.78812
55	34.17542	155	96.31253	255	159.98594	355	220.03452	455	282.68589	555	344.86101	655	406.98133	755	469.13526	855	531.20237	955	593.40949
56	34.79679	156	96.93391	256	160.98594	356	220.26727	456	283.28726	556	345.48238	656	407.59500	756	469.75662	856	531.75371	956	594.03086
57	35.41816	157	97.55528	257	161.98594	357	220.50002	457	283.88863	557	346.10375	657	408.20877	757	470.37700	857	532.30506	957	594.65223
58	36.03953	158	98.17665	258	162.98594	358	220.73277	458	284.48998	558	346.72513	658	408.82241	758	470.99936	858	532.85641	958	595.27360
59	36.66090	159	98.79802	259	163.98594	359	220.96552	459	285.09133	559	347.34650	659	409.43562	759	471.62073	859	533.40780	959	595.89497
60	37.28227	160	99.41939	260	164.98594	360	221.19827	460	285.69268	560	347.96787	660	410.10499	760	472.24211	860	533.95919	960	596.51634
61	37.90364	161	100.04076	261	165.98594	361	221.43102	461	286.29403	561	348.58924	661	410.72636	761	472.86348	861	534.51058	961	597.13772
62	38.52501	162	100.66213	262	166.98594	362	221.66377	462	286.89538	562	349.21061	662	411.34763	762	473.48485	862	535.06197	962	597.75909
63	39.14638	163	101.28350	263	167.98594	363	221.89652	463	287.49673	563	349.83198	663	411.96888	763	474.10622	863	535.61336	963	598.38046
64	39.76775	164	101.90487	264	168.98594	364	222.12927	464	288.09808	564	350.45335	664	412.59017	764	474.72759	864	536.16475	964	599.00183
65	40.38912	165	102.52624	265	169.98594	365	222.36202	465	288.69943	565	351.07472	665	413.21146	765	475.34896	865	536.71614	965	599.62320
66	41.01049	166	103.14761	266	170.98594	366	222.59477	466	289.30078	566	351.69609	666	413.83271	766	475.97033	866	537.26753	966	600.24457
67	41.63187	167	103.76898	267	171.98594	367	222.82752	467	289.90213	567	352.31747	667	414.45396	767	476.59170	867	537.81892	967	600.86594
68	42.25324	168	104.39035	268	172.98594	368	223.06027	468	290.50348	568	352.93884	668	415.07521	768	477.21308	868	538.37031	968	601.48731
69	42.87461	169	105.01173	269	173.98594	369	223.29302	469	291.10483	569	353.56021	669	415.69646	769	477.83445	869	538.92170	969	602.10869
70	43.49598	170	105.63310	270	174.98594	370	223.52577	470	291.70618	570	354.18158	670	416.31771	770	478.45582	870	539.47309	970	602.73006
71	44.11735	171	106.25447	271	175.98594	371	223.75852	471	292.30753	571	354.80295	671	416.93896	771	479.07719	871	540.02448	971	603.35143
72	44.73872	172	106.87584	272	176.98594	372	223.99127	472	292.90888	572	355.42432	672	417.56021	772	479.69856	872	540.57587	972	603.97280
73	45.36009	173	107.49721	273	177.98594	373	224.22402	473	293.51023	573	356.04569	673	418.18146	773	480.31993	873	541.12726	973	604.59417
74	45.98146	174	108.11858	274	178.98594	374	224.45677	474	294.11158	574	356.66706	674	418.80271	774	480.94130	874	541.67865	974	605.21554
75	46.60283	175	108.73995	275	179.98594	375	224.68952	475	294.71293	575	357.28844	675	419.42396	775	481.56267	875	542.22999	975	605.83691
76	47.22420	176	109.36132	276	180.98594	376	224.92227	476	295.31428	576	357.90981	676	420.04521	776	482.18405	876	542.78138	976	606.45828
77	47.84557	177	109.98269	277	181.98594	377	225.15502	477	295.91563	577	358.53118	677	420.66646	777	482.80542	877	543.33276	977	607.07965
78	48.46694	178	110.60406	278	182.98594	378	225.38777	478	296.51698	578	359.15255	678	421.28771	778	483.42679	878	543.88415	978	607.70103
79	49.08831	179	111.22543	279	183.98594	379	225.62052	479	297.11833	579	359.77392	679	421.90896	779	484.04816	879	544.43554	979	608.32240
80	49.70968	180	111.84680	280	184.98594	380	225.85327	480	297.71968	580	360.39529	680	422.53021	780	484.66953	880	544.98693	980	608.94377
81	50.33105	181	112.46817	281	185.98594	381	226.08602	481	298.32103	581	361.01666	681	423.15146	781	485.29090	881	545.53832	981	609.56514
82	50.95242	182	113.08954	282	186.98594	382	226.31877	482	298.92238	582	361.63803	682	423.77271	782	485.91227	882	546.08971	982	610.18651
83	51.57379	183	113.71091	283	187.98594	383	226.55152	483	299.52373	583	362.25940	683	424.39396	783	486.53364	883	546.64010	983	610.80788
84	52.19516	184	114.33228	284	188.98594	384	226.78427	484	300.12508	584	362.88078	684	425.01521	784	487.15501	884	547.19049	984	611.42925
85	52.81653	185	114.95365	285	189.98594	385	227.01702	485	300.72643	585	363.50215	685	425.63646	785	487.77639	885	547.74188	985	612.05062
86	53.43790	186	115.57502	286	190.98594	386	227.24977	486	301.32778	586	364.12352	686	426.25771	786	488.39776	886	548.29327	986	612.67200
87	54.05927	187	116.19639	287	191.98594	387	227.48252	487	301.92913	587	364.74489	687	426.87906	787	489.01913	887	548.84466	987	613.29337
88	54.68064	188	116.81776	288	192.98594	388	227.71527	488	302.53048	588	365.36626	688	427.50031	788	489.64050	888	549.39605	988	613.91474
89	55.30201	189	117.43913	289	193.98594	389	227.94802	489	303.13183	589	365.98763	689	428.12156	789	490.26187	889	550.00000	989	614.53611
90	55.92338	190	118.06050	290	194.98594	390	228.18077	490	303.73318	590	366.60900	690	428.74281	790	490.88324	890	550.60399	990	615.15748
91	56.54475	191	118.68187	291	195.98594	391	228.41352	491	304.33453	591	367.23037	691	429.36406	791	491.50461	891	551.20798	991	615.77885
92	57.16612	192	119.30324	292	196.98594	392	228.64627	492	304.93588	592	367.85175	692	429.98529	792	492.12598	892	551.76047	992	616.40022
93	57.78749	193	119.92461	293	197.98594	393	228.87902	493	305.53723	593	368.47312	693	430.60652	793	492.74736	893	552.31296	993	617.02159
94	58.40886	194	120.54598	294	198.98594	394	229.11177	494	306.13858	594	369.09450	694	431.22777	794	493.36873	894	552.86545	994	617.64297
95	59.03023	195	121.16735	295	199.98594	395	229.34452	495	306.73993	595	369.71588	695	431.84912	795	493.99010	895	553.41794	995	618.26434
96	59.65160	196	121.78872	296	200.98594	396	229.57727	496	307.34128	596	370.33723	696	432.47047	796	494.61147	896	553.97043	996	618.88571
97	60.27297	197	122.41009	297	201.98594	397	229.81002	497	307.94263	597	370.95868	697	433.09182	797	495.23284	897	554.52292	997	619.50708
98	60.89434	198	123.03146	298	202.98594	398	229.94277	498	308.54398	598	371.58013	698	433.71317	798	495.85421	898	555.07541	998	620.12845
99	61.51571	199	123.65283	299	203.98594	399	230.17552	499	309.14533	599	372.20158	699	434.33452	799	496.47566	899	555.62790	999	620.74982

9.7. AREA—ACRES TO HECTARES

[Reduction Factor: 1 acre = 0.404 685 642 24 hectare]

Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares
0	0.40469	100	40.46856	200	80.93713	300	121.40569	400	161.87426	500	202.34282	600	242.81139	700	283.27995	800	323.74851	900	364.21708
1	0.40937	101	41.27794	201	81.34181	301	121.81038	401	162.27894	501	202.74751	601	243.21607	701	283.68464	801	324.15320	901	364.62176
2	0.41405	102	41.64682	202	81.70682	302	122.16895	402	162.64801	502	203.11608	602	243.58320	702	284.05221	802	324.51827	902	365.02883
3	0.41873	103	42.01683	203	82.07183	303	122.52408	403	163.00901	503	203.46821	603	243.93833	703	284.40722	803	324.95334	903	365.43939
4	0.42341	104	42.38684	204	82.42684	304	122.87921	404	163.36404	504	203.81934	604	244.29344	704	284.79623	804	325.37845	904	365.85044
5	0.42809	105	42.75685	205	82.78185	305	123.23432	405	163.71915	505	204.17045	605	244.64856	705	285.18524	805	325.75356	905	366.26149
6	0.43277	106	43.12686	206	83.13686	306	123.58940	406	164.07426	506	204.52157	606	245.00368	706	285.53425	806	326.12867	906	366.67252
7	0.43745	107	43.49687	207	83.49187	307	123.94448	407	164.42937	507	204.87269	607	245.35879	707	285.88496	807	326.50378	907	367.08359
8	0.44213	108	43.86688	208	83.84688	308	124.29950	408	164.78448	508	205.22380	608	245.71390	708	286.23506	808	326.87889	908	367.49460
9	0.44681	109	44.23689	209	84.20189	309	124.65452	409	165.13959	509	205.57491	609	246.06901	709	286.58575	809	327.25399	909	367.90561
10	0.45149	110	44.60690	210	84.55690	310	125.00954	410	165.49470	510	205.92602	610	246.42412	710	286.93681	810	327.62910	910	368.31662
11	0.45617	111	44.97691	211	84.91191	311	125.36456	411	165.84981	511	206.27713	611	246.77923	711	287.28792	811	328.00021	911	368.72763
12	0.46085	112	45.34692	212	85.26742	312	125.71957	412	166.20492	512	206.62824	612	247.13434	712	287.63903	812	328.36132	912	369.13864
13	0.46553	113	45.71693	213	85.62243	313	126.07458	413	166.56003	513	206.97935	613	247.48945	713	287.99014	813	328.71243	913	369.54965
14	0.47021	114	46.08694	214	85.97744	314	126.42959	414	166.91514	514	207.33046	614	247.84456	714	288.34125	814	329.06354	914	369.96066
15	0.47489	115	46.45695	215	86.33245	315	126.78460	415	167.27025	515	207.68157	615	248.19967	715	288.69236	815	329.41465	915	370.37167
16	0.47957	116	46.82696	216	86.68746	316	127.13961	416	167.62536	516	208.03268	616	248.55478	716	289.04347	816	329.76576	916	370.78268
17	0.48425	117	47.19697	217	87.04247	317	127.49462	417	167.98047	517	208.38379	617	248.90989	717	289.39458	817	330.11687	917	371.19369
18	0.48893	118	47.56698	218	87.39748	318	127.84963	418	168.33558	518	208.73490	618	249.26500	718	289.74569	818	330.46798	918	371.60470
19	0.49361	119	47.93699	219	87.75249	319	128.20464	419	168.69069	519	209.08601	619	249.62011	719	290.09680	819	330.81909	919	372.01571
20	0.49829	120	48.30700	220	88.10750	320	128.55965	420	169.04580	520	210.43712	620	250.97122	720	290.44791	820	331.17420	920	372.42672
21	0.50297	121	48.67701	221	88.46251	321	128.91466	421	169.40091	521	210.78823	621	251.32633	721	290.80302	821	331.52929	921	372.83773
22	0.50765	122	49.04702	222	88.81752	322	129.26967	422	169.75602	522	211.13934	622	251.68144	722	291.15813	822	331.88438	922	373.24874
23	0.51233	123	49.41703	223	89.17253	323	129.62468	423	170.11113	523	211.49045	623	252.03655	723	291.50924	823	332.23949	923	373.65975
24	0.51701	124	49.78704	224	89.52754	324	130.07969	424	170.46624	524	211.84156	624	252.39166	724	291.86035	824	332.59459	924	374.07076
25	0.52169	125	50.15705	225	89.88255	325	130.43470	425	170.82135	525	212.19267	625	252.74677	725	292.21146	825	332.94969	925	374.48177
26	0.52637	126	50.52706	226	90.23756	326	130.78971	426	171.17646	526	212.54378	626	253.10188	726	292.56257	826	333.30479	926	374.89278
27	0.53105	127	50.89707	227	90.59257	327	131.14472	427	171.53157	527	212.89489	627	253.45699	727	292.91368	827	333.65989	927	375.30379
28	0.53573	128	51.26708	228	90.94758	328	131.49973	428	171.88668	528	213.24600	628	253.81200	728	293.26479	828	334.01499	928	375.71480
29	0.54041	129	51.63709	229	91.30259	329	131.85474	429	172.24179	529	213.59711	629	254.16711	729	293.61590	829	334.37009	929	376.12581
30	0.54509	130	52.00710	230	91.65760	330	132.20975	430	172.59689	530	213.94822	630	254.52222	730	293.96701	830	334.72519	930	376.53682
31	0.54977	131	52.37711	231	92.01261	331	132.56476	431	172.95200	531	214.30333	631	254.87733	731	294.31812	831	335.08029	931	376.94783
32	0.55445	132	52.74712	232	92.36752	332	132.91977	432	173.30711	532	214.65844	632	255.23244	732	294.66923	832	335.43539	932	377.35884
33	0.55913	133	53.11713	233	92.72253	333	133.27478	433	173.66222	533	215.01355	633	255.58755	733	295.02034	833	335.79049	933	377.76985
34	0.56381	134	53.48714	234	93.07754	334	133.62979	434	174.01733	534	215.36866	634	255.94266	734	295.37145	834	336.14559	934	378.18086
35	0.56849	135	53.85715	235	93.43255	335	133.98480	435	174.37244	535	215.72377	635	256.29777	735	295.72256	835	336.50069	935	378.59187
36	0.57317	136	54.22716	236	93.78756	336	134.33981	436	174.72755	536	216.07888	636	256.65288	736	296.07367	836	336.85579	936	379.00288
37	0.57785	137	54.59717	237	94.14257	337	134.69482	437	175.08266	537	216.43399	637	257.00799	737	296.42478	837	337.21089	937	379.41389
38	0.58253	138	54.96718	238	94.49758	338	135.04983	438	175.43777	538	216.78910	638	257.36310	738	296.77589	838	337.56600	938	379.82490
39	0.58721	139	55.33719	239	94.85259	339	135.40484	439	175.79288	539	217.14421	639	257.71821	739	297.12690	839	337.92110	939	380.23591
40	0.59189	140	55.70720	240	95.20760	340	135.75985	440	176.14799	540	217.49932	640	258.07332	740	297.47801	840	338.27621	940	380.64692
41	0.59657	141	56.07721	241	95.56261	341	136.11486	441	176.50310	541	217.85443	641	258.42843	741	297.82912	841	338.63132	941	381.05793
42	0.60125	142	56.44722	242	95.91762	342	136.46987	442	176.85821	542	218.20954	642	258.78354	742	298.18023	842	338.98643	942	381.46894
43	0.60593	143	56.81723	243	96.27263	343	136.82488	443	177.21332	543	218.56465	643	259.13865	743	298.53134	843	339.34154	943	381.87995
44	0.61061	144	57.18724	244	96.62764	344	137.17989	444	177.56843	544	218.91976	644	259.49376	744	298.88245	844	339.69665	944	382.29096
45	0.61529	145	57.55725	245	96.98265	345	137.53490	445	177.92354	545	219.27487	645	259.84887	745	299.23356	845	340.05176	945	382.70197
46	0.61997	146	57.92726	246	97.33766	346	137.89041	446	178.27865	546	219.63048	646	260.20398	746	299.58467	846	340.40687	946	383.11298
47	0.62465	147	58.29727	247	97.69267	347	138.24542	447	178.63376	547	220.08559	647	260.55910	747	299.93578	847	340.76198	947	383.52399
48	0.62933	148	58.66728	248	98.04768	348	138.60043	448	178.98887	548	220.44070	648	260.91421	748	300.28689	848	341.11709	948	383.93500
49	0.63401	149	59.03729	249	98.40269	349	138.95544	449	179.34398	549	220.79581	649	261.26932	749	300.63800	849	341.47220	949	384.34601

50	20.23428	150	101.17141	350	141.63997	450	182.10854	550	222.57710	650	263.04567	750	303.51423	850	343.95280	950	384.45136
51	20.63897	151	101.57610	351	142.04466	451	182.51322	551	222.88179	651	263.45065	751	303.91892	851	344.36745	951	384.85005
52	21.04365	152	101.98976	352	142.45403	452	182.91791	552	223.29304	652	263.85504	752	304.32350	852	344.77217	952	385.20073
53	21.44854	153	102.40347	353	142.86403	453	183.32660	553	223.70391	653	264.25972	753	304.72829	853	345.19685	953	385.56532
54	21.85322	154	102.81815	354	143.26842	454	183.72728	554	224.11835	654	264.66441	754	305.13297	854	345.60154	954	385.97010
55	22.25771	155	103.23284	355	143.67340	455	184.13197	555	224.52822	655	265.06919	755	305.53766	855	346.00622	955	386.37479
56	22.66216	156	103.59821	356	144.07899	456	184.53665	556	224.93822	656	265.47397	756	305.94235	856	346.41091	956	386.77947
57	23.06658	157	104.00621	357	144.48446	457	184.94134	557	225.34800	657	265.87974	757	306.34703	857	346.81560	957	387.18416
58	23.47117	158	104.43860	358	144.87747	458	185.34602	558	225.75815	658	266.28541	758	306.75172	858	347.22028	958	387.58885
59	23.87645	159	104.81358	359	145.28215	459	185.75071	559	226.16827	659	266.68784	759	307.15604	859	347.62497	959	387.99353
60	24.28114	160	105.21827	360	145.68683	460	186.15540	560	226.57836	660	267.09252	760	307.56109	860	348.02965	960	388.39822
61	24.68582	161	105.62295	361	146.09152	461	186.56009	561	226.98861	661	267.49721	761	307.96577	861	348.43434	961	388.80290
62	25.09051	162	106.02764	362	146.49680	462	186.96478	562	227.39890	662	267.90190	762	308.37046	862	348.83902	962	389.20759
63	25.49520	163	106.43323	363	146.90209	463	187.36945	563	227.80919	663	268.30658	763	308.77515	863	349.24371	963	389.61227
64	25.89988	164	106.83987	364	147.30737	464	187.77412	564	228.21948	664	268.71127	764	309.17983	864	349.64839	964	390.01696
65	26.30457	165	107.24710	365	147.71265	465	188.17882	565	228.62979	665	269.11595	765	309.58452	865	350.05308	965	390.42164
66	26.70925	166	107.64639	366	148.11795	466	188.58351	566	229.03970	666	269.52064	766	309.98920	866	350.45777	966	390.82633
67	27.11394	167	108.05107	367	148.51808	467	188.98820	567	229.44976	667	270.02582	767	310.39389	867	350.86245	967	391.23102
68	27.51862	168	108.45575	368	148.91832	468	189.39288	568	229.85984	668	270.43001	768	310.79857	868	351.26714	968	391.63570
69	27.92331	169	108.86044	369	149.32300	469	189.79757	569	230.26913	669	270.83409	769	311.20326	869	351.67182	969	392.04039
70	28.32798	170	109.26512	370	149.72839	470	190.20253	570	230.67982	670	271.23838	770	311.60794	870	352.07651	970	392.44507
71	28.73266	171	109.66981	371	150.13387	471	190.60643	571	231.07550	671	271.64307	771	312.01263	871	352.48119	971	392.84976
72	29.13733	172	110.07440	372	150.53900	472	191.01132	572	231.48019	672	272.04775	772	312.41732	872	352.88588	972	393.25444
73	29.54201	173	110.47918	373	150.94374	473	191.41621	573	231.88487	673	272.45244	773	312.82200	873	353.29057	973	393.65913
74	29.94674	174	110.88387	374	151.34843	474	191.82110	574	232.28956	674	272.85712	774	313.22669	874	353.69525	974	394.06382
75	30.35142	175	111.28855	375	151.75312	475	192.22598	575	232.69424	675	273.26180	775	313.63137	875	354.09993	975	394.46851
76	30.75611	176	111.69324	376	152.15780	476	192.63097	576	233.09893	676	273.66648	776	314.03606	876	354.50462	976	394.87320
77	31.16079	177	112.09792	377	152.56249	477	193.03595	577	233.50362	677	274.07115	777	314.44074	877	354.90931	977	395.27789
78	31.56548	178	112.50261	378	152.96717	478	193.43974	578	233.90830	678	274.47583	778	314.84543	878	355.31399	978	395.68258
79	31.97017	179	112.90729	379	153.37186	479	193.84442	579	234.31299	679	274.88051	779	315.25012	879	355.71868	979	396.08727
80	32.37485	180	113.31198	380	153.77654	480	194.24911	580	234.71767	680	275.28524	780	315.65480	880	356.12337	980	396.49196
81	32.77954	181	113.71667	381	154.18123	481	194.65378	581	235.12236	681	275.69002	781	316.05949	881	356.52805	981	396.89665
82	33.18422	182	114.12135	382	154.58690	482	195.05848	582	235.52704	682	276.09475	782	316.46418	882	356.93274	982	397.30134
83	33.58891	183	114.52603	383	154.99160	483	195.46317	583	235.93173	683	276.49948	783	316.86886	883	357.33742	983	397.70603
84	33.99359	184	114.93072	384	155.39622	484	195.86785	584	236.33642	684	276.90421	784	317.27353	884	357.74211	984	398.11072
85	34.39828	185	115.33541	385	155.80087	485	196.27254	585	236.74110	685	277.30894	785	317.67823	885	358.14680	985	398.51541
86	34.80297	186	115.74000	386	156.20552	486	196.67722	586	237.14579	686	277.71367	786	318.08293	886	358.55148	986	398.92010
87	35.20765	187	116.14478	387	156.61019	487	197.08191	587	237.55047	687	278.11840	787	318.48804	887	358.95616	987	399.32479
88	35.61234	188	116.54946	388	157.01483	488	197.48650	588	237.95516	688	278.52312	788	318.89329	888	359.36085	988	399.72948
89	36.01702	189	116.95415	389	157.42271	489	197.89128	589	238.35984	689	278.92784	789	319.29857	889	359.76554	989	400.13417
90	36.42171	190	117.35884	390	157.82740	490	198.29596	590	238.76453	690	279.33259	790	319.70386	890	360.17022	990	400.53879
91	36.82639	191	117.76352	391	158.23209	491	198.70064	591	239.16921	691	279.73728	791	320.10915	891	360.57491	991	400.94347
92	37.23108	192	118.16821	392	158.63677	492	199.10534	592	239.57390	692	280.14205	792	320.51443	892	360.97960	992	401.34816
93	37.63576	193	118.57290	393	159.04146	493	199.50092	593	239.97859	693	280.54675	793	320.91972	893	361.38429	993	401.75285
94	38.04045	194	118.97758	394	159.44613	494	199.91471	594	240.38327	694	280.95148	794	321.32500	894	361.78948	994	402.15753
95	38.44514	195	119.38226	395	159.85083	495	200.31930	595	240.78796	695	281.35621	795	321.73028	895	362.19467	995	402.56222
96	38.84982	196	119.78695	396	160.25552	496	200.72408	596	241.19264	696	281.76092	796	322.13557	896	362.60004	996	402.96691
97	39.25451	197	120.19164	397	160.66020	497	201.12897	597	241.60733	697	282.16564	797	322.54086	897	363.00532	997	403.37160
98	39.65919	198	120.59632	398	161.06480	498	201.53445	598	242.01201	698	282.57038	798	322.94614	898	363.41061	998	403.77629
99	40.06388	199	121.00101	399	161.46957	499	201.93814	599	242.41670	699	282.97520	799	323.35143	899	363.81590	999	404.18096

9.8. AREA—HECTARES TO ACRES

[Reduction Factor: 1 hectare = 2.471 053 815 acres]

	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres
0	247.10538	609.34487	200	496.58182	201	498.05292	230	568.34238	230	568.34238	230	568.34238	230	568.34238	230	568.34238	230	568.34238	230	568.34238
1	249.57644	616.91521	201	496.58182	202	498.05292	231	570.81343	231	570.81343	231	570.81343	231	570.81343	231	570.81343	231	570.81343	231	570.81343
2	252.04740	624.28756	202	499.15287	203	500.62397	232	573.28449	232	573.28449	232	573.28449	232	573.28449	232	573.28449	232	573.28449	232	573.28449
3	254.51836	631.65861	203	502.25393	204	503.72504	233	575.75554	233	575.75554	233	575.75554	233	575.75554	233	575.75554	233	575.75554	233	575.75554
4	256.98932	639.02966	204	504.80498	205	506.27603	234	578.22660	234	578.22660	234	578.22660	234	578.22660	234	578.22660	234	578.22660	234	578.22660
5	259.46028	646.40071	205	506.66603	206	508.13709	235	580.69765	235	580.69765	235	580.69765	235	580.69765	235	580.69765	235	580.69765	235	580.69765
6	261.93124	653.77176	206	509.03709	207	510.50814	236	583.16870	236	583.16870	236	583.16870	236	583.16870	236	583.16870	236	583.16870	236	583.16870
7	264.40220	661.14281	207	511.50814	208	513.97919	237	585.63975	237	585.63975	237	585.63975	237	585.63975	237	585.63975	237	585.63975	237	585.63975
8	266.87316	668.51386	208	513.97919	209	516.45025	238	588.11081	238	588.11081	238	588.11081	238	588.11081	238	588.11081	238	588.11081	238	588.11081
9	269.34412	675.88491	209	516.45025	210	518.92130	239	590.58186	239	590.58186	239	590.58186	239	590.58186	239	590.58186	239	590.58186	239	590.58186
10	271.81508	683.25596	210	518.92130	211	521.39235	240	593.05292	240	593.05292	240	593.05292	240	593.05292	240	593.05292	240	593.05292	240	593.05292
11	274.28604	690.62701	211	521.39235	212	523.86341	241	595.52397	241	595.52397	241	595.52397	241	595.52397	241	595.52397	241	595.52397	241	595.52397
12	276.75700	697.99806	212	523.86341	213	526.33446	242	597.99502	242	597.99502	242	597.99502	242	597.99502	242	597.99502	242	597.99502	242	597.99502
13	279.22796	705.36911	213	526.33446	214	528.80552	243	600.46608	243	600.46608	243	600.46608	243	600.46608	243	600.46608	243	600.46608	243	600.46608
14	281.69892	712.74016	214	528.80552	215	531.27657	244	602.93713	244	602.93713	244	602.93713	244	602.93713	244	602.93713	244	602.93713	244	602.93713
15	284.16988	720.11121	215	531.27657	216	533.74762	245	605.40818	245	605.40818	245	605.40818	245	605.40818	245	605.40818	245	605.40818	245	605.40818
16	286.64084	727.48226	216	533.74762	217	536.21868	246	607.87924	246	607.87924	246	607.87924	246	607.87924	246	607.87924	246	607.87924	246	607.87924
17	289.11180	734.85331	217	536.21868	218	538.68973	247	610.35030	247	610.35030	247	610.35030	247	610.35030	247	610.35030	247	610.35030	247	610.35030
18	291.58276	742.22436	218	538.68973	219	541.16079	248	612.82135	248	612.82135	248	612.82135	248	612.82135	248	612.82135	248	612.82135	248	612.82135
19	294.05372	749.59541	219	541.16079	220	543.63184	249	615.29240	249	615.29240	249	615.29240	249	615.29240	249	615.29240	249	615.29240	249	615.29240
20	296.52468	756.96596	220	543.63184	221	546.10290	250	617.76345	250	617.76345	250	617.76345	250	617.76345	250	617.76345	250	617.76345	250	617.76345
21	298.99564	764.33651	221	546.10290	222	548.57395	251	620.23450	251	620.23450	251	620.23450	251	620.23450	251	620.23450	251	620.23450	251	620.23450
22	301.46660	771.70706	222	548.57395	223	551.04500	252	622.70555	252	622.70555	252	622.70555	252	622.70555	252	622.70555	252	622.70555	252	622.70555
23	303.93756	779.07811	223	551.04500	224	553.51605	253	625.17660	253	625.17660	253	625.17660	253	625.17660	253	625.17660	253	625.17660	253	625.17660
24	306.40852	786.44916	224	553.51605	225	555.98711	254	627.64765	254	627.64765	254	627.64765	254	627.64765	254	627.64765	254	627.64765	254	627.64765
25	308.87948	793.82021	225	555.98711	226	558.45816	255	630.11870	255	630.11870	255	630.11870	255	630.11870	255	630.11870	255	630.11870	255	630.11870
26	311.35044	801.19126	226	558.45816	227	560.92922	256	632.58975	256	632.58975	256	632.58975	256	632.58975	256	632.58975	256	632.58975	256	632.58975
27	313.82140	808.56231	227	560.92922	228	563.40027	257	635.06080	257	635.06080	257	635.06080	257	635.06080	257	635.06080	257	635.06080	257	635.06080
28	316.29236	815.93336	228	563.40027	229	565.87132	258	637.53185	258	637.53185	258	637.53185	258	637.53185	258	637.53185	258	637.53185	258	637.53185
29	318.76332	823.30441	229	565.87132	230	568.34238	259	640.00290	259	640.00290	259	640.00290	259	640.00290	259	640.00290	259	640.00290	259	640.00290
30	321.23428	830.67546	230	568.34238	231	570.81343	260	642.47395	260	642.47395	260	642.47395	260	642.47395	260	642.47395	260	642.47395	260	642.47395
31	323.70524	838.04651	231	570.81343	232	573.28449	261	644.94500	261	644.94500	261	644.94500	261	644.94500	261	644.94500	261	644.94500	261	644.94500
32	326.17620	845.41756	232	573.28449	233	575.75554	262	647.41605	262	647.41605	262	647.41605	262	647.41605	262	647.41605	262	647.41605	262	647.41605
33	328.64716	852.78861	233	575.75554	234	578.22660	263	649.88710	263	649.88710	263	649.88710	263	649.88710	263	649.88710	263	649.88710	263	649.88710
34	331.11812	860.15966	234	578.22660	235	580.69765	264	652.35815	264	652.35815	264	652.35815	264	652.35815	264	652.35815	264	652.35815	264	652.35815
35	333.58918	867.53071	235	580.69765	236	583.16870	265	654.82920	265	654.82920	265	654.82920	265	654.82920	265	654.82920	265	654.82920	265	654.82920
36	336.06024	874.90176	236	583.16870	237	585.63975	266	657.30025	266	657.30025	266	657.30025	266	657.30025	266	657.30025	266	657.30025	266	657.30025
37	338.53120	882.27281	237	585.63975	238	588.11081	267	659.77130	267	659.77130	267	659.77130	267	659.77130	267	659.77130	267	659.77130	267	659.77130
38	340.99944	889.64386	238	588.11081	239	590.58186	268	662.24235	268	662.24235	268	662.24235	268	662.24235	268	662.24235	268	662.24235	268	662.24235
39	343.47040	897.01491	239	590.58186	240	593.05292	269	664.71340	269	664.71340	269	664.71340	269	664.71340	269	664.71340	269	664.71340	269	664.71340
40	345.94136	904.38596	240	593.05292	241	595.52397	270	667.18445	270	667.18445	270	667.18445	270	667.18445	270	667.18445	270	667.18445	270	667.18445
41	348.41232	911.75701	241	595.52397	242	597.99502	271	669.65550	271	669.65550	271	669.65550	271	669.65550	271	669.65550	271	669.65550	271	669.65550
42	350.88328	919.12806	242	597.99502	243	600.46608	272	672.12655	272	672.12655	272	672.12655	272	672.12655	272	672.12655	272	672.12655	272	672.12655
43	353.35424	926.50011	243	600.46608	244	602.93713	273	674.59760	273	674.59760	273	674.59760	273	674.59760	273	674.59760	273	674.59760	273	674.59760
44	355.82520	933.87116	244	602.93713	245	605.40818	274	677.06865	274	677.06865	274	677.06865	274	677.06865	274	677.06865	274	677.06865	274	677.06865
45	358.29616	941.24221	245	605.40818	246	607.87924	275	679.53970	275	679.53970	275	679.53970	275	679.53970	275	679.53970	275	679.53970	275	679.53970
46	360.76712	948.61326	246	607.87924	247	610.35030	276	682.01075	276	682.01075	276	682.01075	276	682.01075	276	682.01075	276	682.01075	276	682.01075
47	363.23808	955.98431	247	610.35030	248	612.82135	277	684.48180	277	684.48180	277	684.48180	277	684.48180	277	684.48180	277	684.48180	277	684.48180
48	365.70904	963.35536	248	612.82135	249	615.29240	278	686.95285	278	686.95285	278	686.95285	278	686.95285	278	686.95285	278	686.95285	278	686.95285
49	368.18000	970.72641	249	615.29240	250	617.76345	279	689.42390	279	689.42390	279	689.42390	279	689.42390	279	689.42390	279	689.42390	279	689.42390

50	123.55269	150	370.65807	250	617.76345	350	864.86884	450	1111.97422	550	1359.07960	650	1606.18498	750	1853.20086	850	2100.38574	950	2347.50112
51	126.02374	151	373.12913	251	620.23451	351	867.33989	451	1114.44527	551	1361.55065	651	1608.65603	751	1855.76142	851	2102.86080	951	2349.97218
52	128.49480	152	375.60018	252	622.70536	352	869.81094	452	1116.91632	552	1364.02171	652	1611.12709	752	1858.26247	852	2105.37785	952	2352.44323
53	130.96385	153	378.07123	253	625.17602	353	872.28200	453	1119.38738	553	1366.49276	653	1613.59814	753	1860.70352	853	2107.80890	953	2354.91429
54	133.43691	154	380.54220	254	627.64767	354	874.75305	454	1121.85843	554	1368.96381	654	1616.06920	754	1863.17458	854	2110.27986	954	2357.38534
55	135.90796	155	383.01324	255	630.11872	355	877.22410	455	1124.32949	555	1371.43487	655	1618.54025	755	1865.64533	855	2112.75101	955	2359.85639
56	138.37901	156	385.48440	256	632.58978	356	879.69516	456	1126.80054	556	1373.90592	656	1621.01130	756	1868.11698	856	2115.22207	956	2362.32745
57	140.85007	157	387.95545	257	635.06063	357	882.16621	457	1129.27159	557	1376.37697	657	1623.48236	757	1870.58774	857	2117.69312	957	2364.79860
58	143.32118	158	390.42650	258	637.53188	358	884.63727	458	1131.74265	558	1378.84803	658	1625.95341	758	1873.05295	858	2120.16417	958	2367.26955
59	145.79212	159	392.89756	259	640.00294	359	887.10832	459	1134.21370	559	1381.31908	659	1628.42446	759	1875.52985	859	2122.63523	959	2369.74061
60	148.26323	160	395.36861	260	642.47309	360	889.57937	460	1136.68475	560	1383.79014	660	1630.89552	760	1878.00990	860	2125.10628	960	2372.21166
61	150.73428	161	397.83966	261	644.94305	361	892.05043	461	1139.15581	561	1386.26119	661	1633.36657	761	1880.47195	861	2127.57733	961	2374.68272
62	153.20533	162	400.31072	262	647.41310	362	894.52148	462	1141.62686	562	1388.73224	662	1635.83763	762	1882.94301	862	2130.04839	962	2377.15377
63	155.67639	163	402.78177	263	649.88321	363	896.99253	463	1144.09792	563	1391.20330	663	1638.30868	763	1885.41406	863	2132.51944	963	2379.62482
64	158.14744	164	405.25283	264	652.35326	364	899.46359	464	1146.56897	564	1393.67435	664	1640.77973	764	1887.88511	864	2134.99050	964	2382.09588
65	160.61850	165	407.72388	265	654.82326	365	901.93464	465	1149.04002	565	1396.14541	665	1643.25079	765	1890.35617	865	2137.46155	965	2384.56693
66	163.08955	166	410.19483	266	657.29331	366	904.40570	466	1151.51108	566	1398.61646	666	1645.72184	766	1892.82722	866	2139.93260	966	2387.03799
67	165.56061	167	412.66589	267	659.76337	367	906.87675	467	1153.98213	567	1401.08751	667	1648.19289	767	1895.29833	867	2142.40366	967	2389.50904
68	168.03166	168	415.13703	268	662.23342	368	909.34780	468	1156.45318	568	1403.55857	668	1650.66395	768	1897.76938	868	2144.87471	968	2391.98009
69	170.50271	169	417.60809	269	664.71348	369	911.81886	469	1158.92424	569	1406.02962	669	1653.13500	769	1900.24038	869	2147.34577	969	2394.45115
70	172.97377	170	420.07915	270	667.18458	370	914.28981	470	1161.39529	570	1408.50067	670	1655.60606	770	1902.71144	870	2149.81682	970	2396.92220
71	175.44482	171	422.55020	271	669.65538	371	916.76087	471	1163.86635	571	1410.97173	671	1658.07711	771	1905.18249	871	2152.28787	971	2399.39325
72	177.91587	172	425.02126	272	672.12604	372	919.23202	472	1166.33740	572	1413.44278	672	1660.54816	772	1907.65355	872	2154.75893	972	2401.86431
73	180.38693	173	427.49231	273	674.59679	373	921.70307	473	1168.80845	573	1415.91384	673	1663.01922	773	1910.12460	873	2157.22998	973	2404.33536
74	182.85798	174	429.96336	274	677.06873	374	924.17413	474	1171.27951	574	1418.38489	674	1665.49027	774	1912.59565	874	2159.70103	974	2406.80642
75	185.32904	175	432.43442	275	679.53980	375	926.64518	475	1173.75056	575	1420.85594	675	1667.96133	775	1915.06671	875	2162.17209	975	2409.27747
76	187.80009	176	434.90547	276	682.01085	376	929.11623	476	1176.22162	576	1423.32700	676	1670.43238	776	1917.53776	876	2164.64314	976	2411.74852
77	190.27114	177	437.37653	277	684.48191	377	931.58729	477	1178.69267	577	1425.79805	677	1672.90343	777	1920.00881	877	2167.11420	977	2414.21958
78	192.74220	178	439.84738	278	686.95296	378	934.05834	478	1181.16372	578	1428.26911	678	1675.37449	778	1922.47987	878	2169.58525	978	2416.69063
79	195.21325	179	442.31863	279	689.42401	379	936.52949	479	1183.63478	579	1430.74016	679	1677.84554	779	1924.95092	879	2172.05630	979	2419.16168
80	197.68431	180	444.78969	280	691.89507	380	939.00045	480	1186.10583	580	1433.21121	680	1680.31659	780	1927.42198	880	2174.52736	980	2421.63274
81	200.15536	181	447.26074	281	694.36612	381	941.47150	481	1188.57689	581	1435.68227	681	1682.78765	781	1929.89303	881	2176.99841	981	2424.10379
82	202.62641	182	449.73179	282	696.83718	382	943.94256	482	1191.04794	582	1438.15332	682	1685.25870	782	1932.36408	882	2179.46946	982	2426.57485
83	205.09747	183	452.20285	283	699.30823	383	946.41361	483	1193.51899	583	1440.62437	683	1687.72970	783	1934.83514	883	2181.94052	983	2429.04590
84	207.56852	184	454.67390	284	701.77928	384	948.88466	484	1195.99005	584	1443.09543	684	1690.20081	784	1937.30619	884	2184.41157	984	2431.51695
85	210.03957	185	457.14496	285	704.25034	385	951.35572	485	1198.46110	585	1445.56648	685	1692.67186	785	1939.77724	885	2186.88263	985	2433.98801
86	212.51063	186	459.61601	286	706.72139	386	953.82677	486	1200.93215	586	1448.03754	686	1695.14292	786	1942.24830	886	2189.35368	986	2436.45906
87	214.98168	187	462.08706	287	709.19244	387	956.29783	487	1203.40321	587	1450.50859	687	1697.61397	787	1944.71935	887	2191.82473	987	2438.93012
88	217.45274	188	464.55812	288	711.66350	388	958.76888	488	1205.87426	588	1452.97964	688	1700.08502	788	1947.19041	888	2194.29579	988	2441.40117
89	219.92379	189	467.02917	289	714.13455	389	961.23993	489	1208.34532	589	1455.45070	689	1702.55608	789	1949.66146	889	2196.76684	989	2443.87222
90	222.39484	190	469.50022	290	716.60561	390	963.71099	490	1210.81637	590	1457.92175	690	1705.02713	790	1952.13251	890	2199.23790	990	2446.34328
91	224.86589	191	471.97128	291	719.07666	391	966.18204	491	1213.28742	591	1460.39280	691	1707.49819	791	1954.60357	891	2201.70895	991	2448.81433
92	227.33695	192	474.44233	292	721.54771	392	968.65310	492	1215.75848	592	1462.86386	692	1709.96924	792	1957.07462	892	2204.18000	992	2451.28538
93	229.80800	193	476.91339	293	724.01876	393	971.12415	493	1218.22953	593	1465.33491	693	1712.44029	793	1959.54568	893	2206.65106	993	2453.75644
94	232.27905	194	479.38444	294	726.48982	394	973.59520	494	1220.70058	594	1467.80597	694	1714.91135	794	1962.01673	894	2209.12211	994	2456.22749
95	234.75011	195	481.85549	295	728.96088	395	976.06626	495	1223.17164	595	1470.27702	695	1717.38240	795	1964.48778	895	2211.59316	995	2458.69855
96	237.22116	196	484.32655	296	731.43193	396	978.53731	496	1225.64269	596	1472.74807	696	1719.85346	796	1966.95884	896	2214.06422	996	2461.16960
97	239.69222	197	486.79760	297	733.90298	397	981.00836	497	1228.11375	597	1475.21913	697	1722.32451	797	1969.42989	897	2216.53527	997	2463.64065
98	242.16327	198	489.26866	298	736.37408	398	983.47942	498	1230.58480	598	1477.69018	698	1724.79556	798	1971.90094	898	2219.00633	998	2466.11171
99	244.63433	199	491.73971	299	738.84508	399	985.95047	499	1233.05585	599	1480.16124	699	1727.26662	799	1974.37200	899	2221.47738	999	2468.58276

9.9. VOLUME—CUBIC YARDS TO CUBIC METERS

[Reduction Factor: 1 cubic yard = 0.764 554 857 984 cubic meter]

Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic 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50	38.29774	150	114.68323	350	267.59420	450	344.04969	550	420.50517	650	496.96066	750	573.41614	850	649.87163	950	726.32712
51	39.79230	151	115.44773	351	268.58876	451	344.81424	551	421.26973	651	497.72521	751	574.18070	851	650.63018	951	727.09167
52	40.79686	152	116.21233	352	269.58282	452	345.57880	552	422.03428	652	498.48977	752	574.94525	852	651.40074	952	727.85622
53	41.79743	153	116.97683	353	269.88786	453	346.34335	553	422.79834	653	499.25432	753	575.70981	853	652.16529	953	728.62078
54	42.79800	154	117.74143	354	270.65242	454	347.10791	554	423.56239	654	500.01885	754	576.47436	854	653.92985	954	729.38533
55	43.80057	155	118.50600	355	271.41698	455	347.87246	555	424.32739	655	500.78340	755	577.23892	855	654.69440	955	730.14989
56	44.81302	156	119.27050	356	272.18153	456	348.63702	556	425.09250	656	501.54799	756	578.00347	856	655.45896	956	730.91444
57	45.82547	157	120.03500	357	272.94608	457	349.40157	557	425.85706	657	502.31254	757	578.76803	857	656.22351	957	731.67900
58	46.83792	158	120.79950	358	273.71064	458	350.16612	558	426.61611	658	503.07710	758	579.53258	858	656.98807	958	732.44355
59	47.85037	159	121.56422	359	274.47519	459	350.93068	559	427.38017	659	503.84165	759	580.29714	859	657.75262	959	733.20811
60	48.86282	160	122.32878	360	275.23975	460	351.69523	560	428.14522	660	504.60621	760	581.06169	860	658.51718	960	733.97266
61	49.87527	161	123.09333	361	276.00430	461	352.45979	561	428.91028	661	505.37076	761	581.82625	861	659.28173	961	734.73722
62	50.88772	162	123.85788	362	276.76886	462	353.22434	562	429.67533	662	506.13532	762	582.59080	862	659.04629	962	735.50177
63	51.89017	163	124.62243	363	277.53342	463	353.98890	563	430.44039	663	506.89987	763	583.35536	863	659.81084	963	736.26633
64	52.90262	164	125.38698	364	278.29797	464	354.75345	564	431.20546	664	507.66443	764	584.11991	864	660.57540	964	737.03088
65	53.91507	165	126.15153	365	279.06252	465	355.51800	565	431.97053	665	508.42895	765	584.88447	865	661.33995	965	737.79544
66	54.92752	166	126.91608	366	279.82707	466	356.28255	566	432.73560	666	509.19350	766	585.64902	866	662.10451	966	738.55999
67	55.94000	167	127.68063	367	280.59163	467	357.04712	567	433.50060	667	509.95809	767	586.41358	867	662.86906	967	739.32455
68	56.95247	168	128.44518	368	281.35619	468	357.81167	568	434.26560	668	510.72265	768	587.17813	868	663.63362	968	740.08910
69	57.96492	169	129.20973	369	282.12074	469	358.57623	569	435.03067	669	511.48720	769	587.94269	869	664.39817	969	740.85366
70	58.97737	170	129.97433	370	282.88530	470	359.34078	570	435.79572	670	512.25175	770	588.70724	870	665.16273	970	741.61821
71	59.98982	171	130.73888	371	283.64985	471	360.10534	571	436.56082	671	513.01631	771	589.47180	871	665.92728	971	742.38277
72	60.99227	172	131.50343	372	284.41441	472	360.86989	572	437.32538	672	513.78086	772	590.23635	872	666.69184	972	743.14732
73	61.99472	173	132.26798	373	285.17896	473	361.63445	573	438.08993	673	514.54542	773	591.00091	873	667.45639	973	743.91188
74	62.99717	174	133.03253	374	285.94352	474	362.39900	574	438.85449	674	515.30997	774	591.76546	874	668.22095	974	744.67643
75	63.99962	175	133.79708	375	286.70807	475	363.16356	575	439.61904	675	516.07453	775	592.53001	875	668.98550	975	745.44099
76	64.99207	176	134.56163	376	287.47262	476	363.92811	576	440.38360	676	516.83908	776	593.29457	876	669.75006	976	746.20554
77	65.99452	177	135.32618	377	288.23717	477	364.69267	577	441.14815	677	517.60364	777	594.05912	877	670.51461	977	746.97010
78	66.99697	178	136.09073	378	289.00174	478	365.45722	578	441.91271	678	518.36819	778	594.82368	878	671.27917	978	747.73465
79	67.99942	179	136.85528	379	289.76629	479	366.22178	579	442.67726	679	519.13275	779	595.58823	879	672.04372	979	748.49921
80	68.99187	180	137.61983	380	290.53085	480	366.98633	580	443.44182	680	519.89730	780	596.35279	880	672.80828	980	749.26376
81	69.99432	181	138.38438	381	291.29540	481	367.75089	581	444.20637	681	520.66186	781	597.11734	881	673.57283	981	750.02832
82	70.99677	182	139.14893	382	292.05995	482	368.51544	582	444.97093	682	521.42641	782	597.88190	882	674.33738	982	750.79287
83	71.99922	183	139.91348	383	292.82450	483	369.28000	583	445.73548	683	522.19097	783	598.64645	883	675.10194	983	751.55743
84	72.99167	184	140.67803	384	293.58907	484	370.04455	584	446.50004	684	522.95552	784	599.41101	884	675.86649	984	752.32198
85	73.99412	185	141.44258	385	294.35362	485	370.80911	585	447.26459	685	523.72008	785	600.17556	885	676.63105	985	753.08654
86	74.99657	186	142.20713	386	295.11818	486	371.57366	586	448.02915	686	524.48463	786	600.94012	886	677.39560	986	753.85109
87	75.99902	187	142.97168	387	295.88273	487	372.33822	587	448.79370	687	525.24919	787	601.70467	887	678.16016	987	754.61564
88	76.99147	188	143.73623	388	296.64728	488	373.10277	588	449.55826	688	526.01374	788	602.46923	888	678.92471	988	755.38020
89	77.99392	189	144.50078	389	297.41184	489	373.86733	589	450.32281	689	526.77830	789	603.23378	889	679.68927	989	756.14475
90	78.99637	190	145.26533	390	298.17639	490	374.63189	590	451.08737	690	527.54285	790	603.99834	890	680.45382	990	756.90931
91	79.99882	191	146.02988	391	298.94095	491	375.39644	591	451.85192	691	528.30741	791	604.76289	891	681.21838	991	757.67386
92	80.99127	192	146.79443	392	299.70550	492	376.16099	592	452.61648	692	529.07196	792	605.52745	892	681.98293	992	758.43842
93	81.99372	193	147.55898	393	300.47006	493	376.92554	593	453.38103	693	529.83652	793	606.29200	893	682.74749	993	759.20297
94	82.99617	194	148.32353	394	301.23461	494	377.69010	594	454.14559	694	530.60107	794	607.05656	894	683.51204	994	759.96753
95	83.99862	195	149.08808	395	302.00017	495	378.45465	595	454.91014	695	531.36563	795	607.82111	895	684.27660	995	760.73208
96	84.99107	196	149.85263	396	302.76472	496	379.21921	596	455.67470	696	532.13018	796	608.58567	896	685.04115	996	761.49664
97	85.99352	197	150.61718	397	303.52928	497	379.98376	597	456.43925	697	532.89474	797	609.35022	897	685.80571	997	762.26119
98	86.99597	198	151.38173	398	304.29383	498	380.74832	598	457.20381	698	533.65929	798	610.11473	898	686.57026	998	763.02575
99	87.99842	199	152.14628	399	305.05739	499	381.51287	599	457.96836	699	534.42385	799	610.87933	899	687.33482	999	763.79030

9.10 VOLUME—CUBIC METERS TO CUBIC YARDS

[Reduction Factor: 1 cubic meter = 1.307 950 619 cubic yards]

Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards	Cubic Meters	Cubic Yards
0	1.307950	100	130.78506	200	261.59012	300	392.38519	400	523.18025	500	653.97531	600	784.77037	700	915.56543	800	1046.36049	900	1177.15556				
1	2.615901	101	132.11036	201	262.89807	301	393.69314	401	524.48820	501	655.28326	601	786.07832	701	916.87338	801	1047.66844	901	1178.46351				
2	3.923855	102	133.44091	202	264.20602	302	395.00109	402	525.79625	502	656.58841	602	787.38627	702	918.18121	802	1048.97639	902	1179.77146				
3	5.231810	103	134.71891	203	265.51398	303	396.30904	403	527.10410	503	657.89562	603	788.69452	703	919.48928	803	1050.28435	903	1181.07941				
4	6.539775	104	136.02686	204	266.82193	304	397.61699	404	528.41205	504	659.20711	604	790.00217	704	920.79723	804	1051.59230	904	1182.38736				
5	7.847705	105	137.33487	205	268.13988	305	398.92494	405	529.72000	505	660.81501	605	792.31012	705	922.10518	805	1052.90025	905	1183.69531				
6	9.155665	106	138.64377	206	269.45783	306	400.23289	406	531.02795	506	661.82006	606	793.61807	706	923.41314	806	1054.20820	906	1185.00326				
7	10.463600	107	139.95072	207	270.78478	307	401.54084	407	532.33590	507	663.13096	607	795.23398	707	924.72109	807	1055.51615	907	1186.31121				
8	11.771556	108	141.25867	208	272.05373	308	402.84879	408	533.64385	508	665.74686	608	796.54193	708	926.02904	808	1056.82410	908	1187.61916				
9		109	142.56662	209	273.36168	309	404.15674	409	534.95180	509	667.05481	609	797.84988	709	927.33699	809	1058.13205	909	1188.92711				
10	13.07951	110	143.87457	210	274.66963	310	405.46469	410	536.25975	510	668.36277	610	799.15783	710	928.64940	810	1059.44000	910	1190.23506				
11	14.38746	111	145.18252	211	275.97758	311	406.77264	411	537.56770	511	669.67072	611	800.46578	711	929.95289	811	1060.74795	911	1191.54301				
12	15.69541	112	146.49047	212	277.28553	312	408.08859	412	538.87565	512	670.97872	612	801.77373	712	931.25898	812	1062.05590	912	1192.85096				
13	17.00336	113	147.79842	213	278.59348	313	409.39854	413	540.18360	513	672.28662	613	803.08168	713	932.56879	813	1063.36385	913	1194.15891				
14	18.31131	114	149.10637	214	279.90143	314	410.69649	414	541.49166	514	673.59457	614	804.38963	714	933.87674	814	1064.67180	914	1195.46886				
15	19.61926	115	150.41432	215	281.20938	315	412.00444	415	542.79951	515	674.90252	615	805.69758	715	935.18469	815	1065.97975	915	1196.77481				
16	20.92721	116	151.72227	216	282.51733	316	413.31239	416	544.10746	516	676.21047	616	807.00553	716	936.49264	816	1067.28770	916	1198.08272				
17	22.23516	117	153.03022	217	283.82528	317	414.62033	417	545.41541	517	677.51842	617	808.31348	717	937.80059	817	1068.59665	917	1199.39072				
18	23.54311	118	154.33817	218	285.13323	318	415.92830	418	546.72336	518	678.82637	618	809.62143	718	939.10854	818	1069.90360	918	1200.69867				
19	24.85106	119	155.64612	219	286.44119	319	417.23625	419	548.03131	519	680.13432	619	810.92938	719	940.41649	819	1071.21156	919	1202.00662				
20	26.15901	120	156.95407	220	287.74914	320	418.54420	420	549.33926	520	681.44227	620	812.23733	720	941.72444	820	1072.51951	920	1203.31457				
21	27.46696	121	158.26202	221	289.05709	321	419.85215	421	550.64721	521	682.75022	621	813.54528	721	943.03239	821	1073.82746	921	1204.62252				
22	28.77491	122	159.56998	222	290.36504	322	421.16010	422	551.95516	522	684.05817	622	814.85323	722	944.34035	822	1075.13541	922	1205.93047				
23	30.08286	123	160.87793	223	291.67299	323	422.46805	423	553.26311	523	685.36612	623	816.16119	723	945.64830	823	1076.44336	923	1207.23842				
24	31.39081	124	162.18588	224	292.98094	324	423.77600	424	554.57106	524	686.67407	624	817.46914	724	946.95625	824	1077.75131	924	1208.54637				
25	32.69877	125	163.49383	225	294.28889	325	425.08395	425	555.87901	525	687.98202	625	818.77709	725	948.26429	825	1079.05926	925	1209.85432				
26	34.00672	126	164.80178	226	295.59684	326	426.39190	426	557.18696	526	689.28998	626	820.08504	726	949.57215	826	1080.36721	926	1211.16227				
27	35.31467	127	166.10973	227	296.90479	327	427.69985	427	558.49491	527	690.59793	627	821.39299	727	950.88010	827	1081.67516	927	1212.47022				
28	36.62262	128	167.41768	228	298.21274	328	429.00780	428	559.80286	528	691.90588	628	822.70094	728	952.18805	828	1082.98311	928	1213.77817				
29	37.93057	129	168.72563	229	299.52069	329	430.31575	429	561.11081	529	693.21383	629	824.00899	729	953.49600	829	1084.29106	929	1215.08612				
30	39.23852	130	170.03358	230	300.82864	330	431.62370	430	562.41877	530	694.52137	630	825.31684	730	954.80395	830	1085.59901	930	1216.39407				
31	40.54647	131	171.34153	231	302.13659	331	432.93165	431	563.72672	531	695.83672	631	826.63279	731	956.11190	831	1086.90696	931	1217.70202				
32	41.85442	132	172.64948	232	303.44454	332	434.23960	432	565.03467	532	697.14959	632	827.94973	732	957.42085	832	1088.21492	932	1219.00998				
33	43.16237	133	173.95743	233	304.75249	333	435.54756	433	566.34262	533	698.46364	633	829.26480	733	958.72780	833	1089.52286	933	1220.31793				
34	44.47032	134	175.26538	234	306.06044	334	436.85551	434	567.65057	534	699.77658	634	830.58099	734	960.03470	834	1090.83081	934	1221.62588				
35	45.77827	135	176.57333	235	307.36839	335	438.16346	435	568.95852	535	701.08153	635	831.89659	735	961.34375	835	1092.13877	935	1222.93383				
36	47.08622	136	177.88128	236	308.67635	336	439.47141	436	570.26647	536	702.39648	636	833.21264	736	962.65165	836	1093.44672	936	1224.24178				
37	48.39417	137	179.18923	237	309.98430	337	440.77936	437	571.57442	537	703.70949	637	834.52749	737	963.95960	837	1094.75467	937	1225.54973				
38	49.70212	138	180.49719	238	311.29225	338	442.08731	438	572.88237	538	704.98538	638	835.78044	738	965.26756	838	1096.06262	938	1226.85768				
39	51.01017	139	181.80514	239	312.60020	339	443.39526	439	574.19032	539	706.29333	639	837.08839	739	966.57551	839	1097.37057	939	1228.16563				
40	52.31802	140	183.11309	240	313.90815	340	444.70321	440	575.49827	540	707.60628	640	838.39635	740	967.88346	840	1098.67852	940	1229.47358				
41	53.62598	141	184.42104	241	315.21610	341	446.01116	441	576.80622	541	708.91923	641	839.70430	741	969.19141	841	1099.98642	941	1230.78153				
42	54.93393	142	185.72899	242	316.52405	342	447.31911	442	578.11417	542	710.23219	642	841.01225	742	970.49936	842	1101.29442	942	1232.08948				
43	56.24188	143	187.03694	243	317.83200	343	448.62706	443	579.42212	543	711.54514	643	842.32020	743	971.80731	843	1102.60237	943	1233.39743				
44	57.54983	144	188.34489	244	319.13995	344	449.93501	444	580.73007	544	712.85309	644	843.62815	744	973.11526	844	1103.91032	944	1234.70538				
45	58.85778	145	189.65284	245	320.44790	345	451.24296	445	582.03802	545	714.16104	645	844.93610	745	974.42321	845	1105.21827	945	1236.01333				
46	60.16573	146	190.96079	246	321.75585	346	452.55091	446	583.34598	546	715.47141	646	846.24405	746	975.73116	846	1106.52622	946	1237.32128				
47	61.47368	147	192.26874	247	323.06380	347	453.85886	447	584.65393	547	716.77894	647	847.55200	747	977.03911	847	1107.83417	947	1238.62923				
48	62.78163	148	193.57669	248	324.37175	348	455.16681	448	585.96188	548	718.08694	648	848.85995	748	978.34706	848	1109.14212	948	1239.93718				
49	64.08958	149	194.88464	249	325.67970	349	456.47477	449	587.26983	549	719.39589	649	850.16806	749	979.65501	849	111						

50	65.30753	150	196.19259	250	326.98765	350	457.78272	450	588.57778	550	719.37284	650	850.10790	750	980.96296	850	1111.75802	950	1242.55309
51	66.70548	151	197.50054	251	328.98560	351	459.09007	451	589.85873	551	720.68079	651	851.47585	751	982.27091	851	1113.06598	951	1243.86104
52	68.01343	152	198.80849	252	329.60356	352	460.39862	452	591.19368	552	721.98374	652	852.78380	752	983.57886	852	1114.37393	952	1245.16899
53	69.32138	153	200.11044	253	330.91151	353	461.70657	453	592.50163	553	723.29069	653	853.94861	753	984.87881	853	1115.68388	953	1246.47694
54	70.62933	154	201.42240	254	332.21946	354	463.01452	454	593.80958	554	724.60464	654	855.30970	754	986.19477	854	1116.99893	954	1247.78488
55	71.93728	155	202.73235	255	333.52741	355	464.32247	455	595.11753	555	725.91259	655	856.70765	755	987.50272	855	1118.29778	955	1249.09284
56	73.24523	156	204.04030	256	334.83536	356	465.63042	456	596.42548	556	727.22054	656	858.01560	756	988.81067	856	1119.60373	956	1250.40079
57	74.55319	157	205.34825	257	336.14331	357	466.93837	457	597.73343	557	728.52849	657	859.32356	757	990.11802	857	1120.91368	957	1251.70874
58	75.86114	158	206.65620	258	337.45126	358	468.24632	458	599.04138	558	729.83644	658	860.63151	758	991.42537	858	1122.22163	958	1253.01069
59	77.16909	159	207.96415	259	338.75921	359	469.55427	459	600.34933	559	731.14439	659	861.93946	759	992.73452	859	1123.52958	959	1254.32464
60	78.47704	160	209.27210	260	340.06716	360	470.86222	460	601.65728	560	732.45235	660	863.24741	760	994.04247	860	1124.83753	960	1255.63259
61	79.78499	161	211.58505	261	341.37511	361	472.17017	461	602.96523	561	733.76030	661	864.55536	761	995.35042	861	1126.14548	961	1256.94054
62	81.09294	162	213.89300	262	342.68306	362	473.47812	462	604.27319	562	735.06825	662	865.86331	762	996.65837	862	1127.45343	962	1258.24849
63	82.40089	163	215.19595	263	343.99101	363	474.78607	463	605.58114	563	736.37620	663	867.17126	763	997.96632	863	1128.76138	963	1259.55644
64	83.70884	164	216.50390	264	345.29896	364	476.09402	464	606.88909	564	737.68415	664	868.47921	764	999.27427	864	1130.06933	964	1260.86439
65	85.01679	165	217.81185	265	346.60691	365	477.40198	465	608.19704	565	738.99210	665	869.78716	765	1000.58222	865	1131.37728	965	1262.17235
66	86.32474	166	219.11980	266	347.91486	366	478.70993	466	609.50499	566	740.30005	666	871.09511	766	1001.89017	866	1132.68523	966	1263.48030
67	87.63269	167	220.42775	267	349.22281	367	480.01788	467	610.81294	567	741.60800	667	872.40366	767	1003.19812	867	1133.99318	967	1264.78825
68	88.94064	168	221.73570	268	350.53077	368	481.32583	468	612.12089	568	742.91593	668	873.71101	768	1004.50607	868	1135.30114	968	1266.09620
69	90.24859	169	223.04365	269	351.83872	369	482.63378	469	613.42884	569	744.22390	669	875.01896	769	1005.81402	869	1136.60909	969	1267.40415
70	91.55654	170	224.35160	270	353.14667	370	483.94173	470	614.73479	570	745.53185	670	876.32691	770	1007.12198	870	1137.91704	970	1268.71205
71	92.86449	171	225.65956	271	354.45462	371	485.24968	471	616.04074	571	746.83980	671	877.63486	771	1008.42993	871	1139.22499	971	1270.02010
72	94.17244	172	226.96751	272	355.76257	372	486.55763	472	617.35269	572	748.14775	672	878.94281	772	1009.73788	872	1140.53294	972	1271.32800
73	95.48040	173	228.27546	273	357.07052	373	487.86558	473	618.66064	573	749.45570	673	880.25077	773	1011.04583	873	1141.84089	973	1272.63595
74	96.78835	174	229.58341	274	358.37847	374	489.17353	474	619.96859	574	750.76365	674	881.55872	774	1012.35378	874	1143.14884	974	1273.94390
75	98.09630	175	228.89136	275	359.68642	375	490.48148	475	621.27654	575	752.07160	675	882.86667	775	1013.66173	875	1144.45679	975	1275.25185
76	99.40425	176	230.19931	276	360.99437	376	491.78943	476	622.58449	576	753.37956	676	884.17462	776	1014.96968	876	1145.76474	976	1276.55980
77	100.71220	177	231.50726	277	362.30232	377	493.09738	477	623.89244	577	754.68751	677	885.48237	777	1016.27763	877	1147.07269	977	1277.86775
78	102.02015	178	232.81521	278	363.61027	378	494.40533	478	625.20039	578	755.99546	678	886.79052	778	1017.58558	878	1148.38064	978	1279.17570
79	103.32810	179	234.12316	279	364.91822	379	495.71328	479	626.50835	579	757.30341	679	888.09847	779	1018.89353	879	1149.68859	979	1280.48365
80	104.63605	180	235.43111	280	366.22617	380	497.02123	480	627.81630	580	758.61136	680	889.40642	780	1020.20148	880	1150.99654	980	1281.79160
81	105.94400	181	236.73906	281	367.53412	381	498.32919	481	629.12425	581	759.91931	681	890.71437	781	1021.50943	881	1152.30449	981	1283.09956
82	107.25195	182	238.04701	282	368.84207	382	499.63714	482	630.43220	582	761.22726	682	892.02232	782	1022.81738	882	1153.61244	982	1284.40751
83	108.55990	183	239.35496	283	370.15002	383	500.94509	483	631.74015	583	762.53521	683	893.33027	783	1024.12533	883	1154.92039	983	1285.71546
84	109.86785	184	240.66291	284	371.45798	384	502.25304	484	633.04810	584	763.84316	684	894.63822	784	1025.43328	884	1156.22835	984	1287.02341
85	111.17580	185	241.97086	285	372.76593	385	503.56099	485	634.35605	585	765.15111	685	895.94617	785	1026.74123	885	1157.53630	985	1288.33136
86	112.48375	186	243.27881	286	374.07388	386	504.86894	486	635.66400	586	766.45906	686	897.25412	786	1028.04918	886	1158.84425	986	1289.63931
87	113.79170	187	244.58677	287	375.38183	387	506.17689	487	636.97195	587	767.76701	687	898.56207	787	1029.35714	887	1160.15220	987	1290.94726
88	115.09965	188	245.89472	288	376.68978	388	507.48484	488	638.27990	588	769.07496	688	899.87002	788	1030.66509	888	1161.46015	988	1292.25521
89	116.40760	189	247.20267	289	377.99773	389	508.79279	489	639.58785	589	770.38291	689	901.17798	789	1031.97304	889	1162.76810	989	1293.56316
90	117.71556	190	248.51062	290	379.30568	390	510.10074	490	640.89580	590	771.69086	690	902.48593	790	1033.28099	890	1164.07605	990	1294.87111
91	119.02351	191	249.81857	291	380.61363	391	511.40867	491	642.20375	591	772.99881	691	903.79388	791	1034.58994	891	1165.38400	991	1296.17906
92	120.33146	192	251.12652	292	381.92158	392	512.71664	492	643.51170	592	774.30677	692	905.10183	792	1035.89889	892	1166.69195	992	1297.48701
93	121.63941	193	252.43447	293	383.22953	393	514.02459	493	644.81965	593	775.61472	693	906.40978	793	1037.20484	893	1167.99990	993	1298.79496
94	122.94736	194	253.74242	294	384.53748	394	515.33254	494	646.12760	594	776.92267	694	907.71773	794	1038.51279	894	1169.30785	994	1300.10291
95	124.25531	195	255.05037	295	385.84543	395	516.64049	495	647.43556	595	778.23062	695	909.02568	795	1039.82074	895	1170.61580	995	1301.41086
96	125.56326	196	256.35832	296	387.15338	396	517.94844	496	648.74351	596	779.53857	696	910.33363	796	1041.12869	896	1171.92375	996	1302.71881
97	126.87121	197	257.66627	297	388.46133	397	519.25639	497	650.05146	597	780.84652	697	911.64158	797	1042.43604	897	1173.23170	997	1304.02677
98	128.17916	198	258.97422	298	389.76928	398	520.56435	498	651.35941	598	782.15447	698	912.94953	798	1043.74459	898	1174.53965	998	1305.33467
99	129.48711	199	260.28217	299	391.07723	399	521.87230	499	652.66736	599	783.46242	699	914.25748	799	1045.05254	899	1175.84760	999	1306.64257

9.11. CAPACITY—LIQUID QUARTS TO LITERS

Reduction Factor: 1 liquid quart = 0.946 326 45 liters]

Liquid Quarts		Liters		Liquid Quarts		Liters		Liquid Quarts		Liters		Liquid Quarts		Liters		Liquid Quarts		Liters	
Liquid Quarts	Liters	Liquid Quarts	Liters	Liquid Quarts	Liters	Liquid Quarts	Liters	Liquid Quarts	Liters	Liquid Quarts	Liters	Liquid Quarts	Liters	Liquid Quarts	Liters	Liquid Quarts	Liters	Liquid Quarts	Liters
0	0.9463	100	94.633	200	189.265	300	283.898	400	378.531	500	473.163	600	567.796	700	662.429	800	757.061	900	851.694
1	1.8927	101	95.579	201	190.212	301	284.844	401	379.477	501	474.110	601	568.742	701	663.375	801	758.007	901	852.628
2	2.8390	102	96.525	202	191.158	302	285.791	402	380.423	502	475.056	602	569.689	702	664.321	802	758.954	902	853.586
3	3.7853	103	97.472	203	192.104	303	286.737	403	381.370	503	476.002	603	570.635	703	665.267	803	759.900	903	854.533
4	4.7316	104	98.418	204	193.051	304	287.683	404	382.316	504	476.919	604	571.581	704	666.214	804	760.846	904	855.479
5	5.6780	105	99.364	205	193.997	305	288.630	405	383.262	505	477.805	605	572.528	705	667.160	805	761.789	905	856.425
6	6.6243	106	100.311	206	194.943	306	289.576	406	384.209	506	478.841	606	573.474	706	668.106	806	762.733	906	857.372
7	7.5706	107	101.257	207	195.890	307	290.522	407	385.155	507	479.788	607	574.420	707	669.053	807	763.685	907	858.318
8	8.5169	108	102.203	208	196.836	308	291.469	408	386.101	508	480.734	608	575.366	708	669.999	808	764.632	908	859.264
9	9.4633	109	103.150	209	197.782	309	292.415	409	387.048	509	481.680	609	576.313	709	670.945	809	765.578	909	860.211
10	10.4096	110	104.096	210	198.729	310	293.361	410	387.994	510	482.626	610	577.259	710	671.892	810	766.524	910	861.157
11	11.3559	111	105.042	211	199.675	311	294.308	411	388.940	511	483.577	611	578.205	711	672.838	811	767.471	911	862.103
12	12.3022	112	105.989	212	200.621	312	295.254	412	389.886	512	484.519	612	579.152	712	673.784	812	768.417	912	863.050
13	13.2486	113	106.935	213	201.568	313	296.200	413	390.833	513	485.462	613	580.098	713	674.731	813	769.363	913	863.996
14	14.1949	114	107.881	214	202.514	314	297.147	414	391.779	514	486.405	614	581.044	714	675.677	814	770.310	914	864.942
15	15.1412	115	108.828	215	203.460	315	298.093	415	392.725	515	487.358	615	581.991	715	676.623	815	771.256	915	865.889
16	16.0875	116	109.774	216	204.407	316	299.039	416	393.672	516	488.301	616	582.937	716	677.570	816	772.202	916	866.835
17	17.0339	117	110.720	217	205.353	317	299.985	417	394.618	517	489.251	617	583.883	717	678.516	817	773.149	917	867.781
18	17.9802	118	111.667	218	206.299	318	300.932	418	395.564	518	490.197	618	584.830	718	679.462	818	774.095	918	868.728
19	18.9265	119	112.613	219	207.245	319	301.878	419	396.511	519	491.143	619	585.776	719	680.409	819	775.041	919	869.674
20	19.8729	120	113.559	220	208.192	320	302.824	420	397.457	520	492.090	620	586.722	720	681.355	820	775.988	920	870.620
21	20.8192	121	114.506	221	209.138	321	303.771	421	398.403	521	493.036	621	587.669	721	682.301	821	776.934	921	871.567
22	21.7655	122	115.452	222	210.084	322	304.717	422	399.350	522	493.982	622	588.615	722	683.248	822	777.880	922	872.513
23	22.7118	123	116.398	223	211.031	323	305.663	423	400.296	523	494.929	623	589.561	723	684.194	823	778.827	923	873.459
24	23.6582	124	117.344	224	211.977	324	306.610	424	401.242	524	495.875	624	590.508	724	685.140	824	779.773	924	874.406
25	24.6045	125	118.291	225	212.923	325	307.556	425	402.189	525	496.821	625	591.454	725	686.087	825	780.719	925	875.352
26	25.5508	126	119.237	226	213.870	326	308.502	426	403.135	526	497.768	626	592.400	726	687.033	826	781.666	926	876.298
27	26.4971	127	120.183	227	214.816	327	309.449	427	404.081	527	498.714	627	593.347	727	687.979	827	782.612	927	877.245
28	27.4433	128	121.130	228	215.762	328	310.395	428	405.028	528	499.660	628	594.293	728	688.926	828	783.558	928	878.191
29	28.3896	129	122.076	229	216.709	329	311.341	429	405.974	529	500.607	629	595.239	729	689.872	829	784.505	929	879.137
30	29.3361	130	123.022	230	217.655	330	312.288	430	406.920	530	501.553	630	596.186	730	690.818	830	785.451	930	880.084
31	30.2824	131	123.969	231	218.601	331	313.234	431	407.867	531	502.499	631	597.132	731	691.765	831	786.397	931	881.030
32	31.2288	132	124.915	232	219.548	332	314.180	432	408.813	532	503.446	632	598.078	732	692.711	832	787.344	932	881.976
33	32.1751	133	125.861	233	220.494	333	315.127	433	409.759	533	504.392	633	599.025	733	693.657	833	788.290	933	882.923
34	33.1214	134	126.808	234	221.440	334	316.073	434	410.706	534	505.338	634	599.971	734	694.604	834	789.236	934	883.869
35	34.0678	135	127.754	235	222.387	335	317.019	435	411.652	535	506.285	635	600.917	735	695.550	835	790.183	935	884.815
36	35.0141	136	128.700	236	223.333	336	317.966	436	412.598	536	507.231	636	601.864	736	696.496	836	791.129	936	885.762
37	35.9604	137	129.647	237	224.279	337	318.912	437	413.545	537	508.177	637	602.810	737	697.443	837	792.073	937	886.708
38	36.9067	138	130.593	238	225.226	338	319.858	438	414.491	538	509.124	638	603.756	738	698.389	838	793.022	938	887.654
39	37.8531	139	131.539	239	226.172	339	320.805	439	415.437	539	510.070	639	604.703	739	699.335	839	793.968	939	888.601
40	38.7994	140	132.486	240	227.118	340	321.751	440	416.384	540	511.016	640	605.619	740	700.282	840	794.914	940	889.547
41	39.7457	141	133.432	241	228.065	341	322.697	441	417.330	541	511.963	641	606.595	741	701.228	841	795.861	941	890.493
42	40.6920	142	134.378	242	229.011	342	323.644	442	418.276	542	512.909	642	607.542	742	702.174	842	796.807	942	891.440
43	41.6384	143	135.325	243	229.957	343	324.590	443	419.223	543	513.855	643	608.488	743	703.121	843	797.753	943	892.386
44	42.5847	144	136.271	244	230.904	344	325.536	444	420.169	544	514.802	644	609.434	744	704.067	844	798.700	944	893.332
45	43.5310	145	137.217	245	231.850	345	326.483	445	421.115	545	515.748	645	610.381	745	705.013	845	799.646	945	894.278
46	44.4773	146	138.164	246	232.796	346	327.429	446	422.062	546	516.694	646	611.327	746	705.960	846	800.592	946	895.225
47	45.4237	147	139.110	247	233.743	347	328.375	447	423.008	547	517.641	647	612.273	747	706.906	847	801.539	947	896.171
48	46.3700	148	140.056	248	234.689	348	329.322	448	423.954	548	518.587	648	613.220	748	707.852	848	802.485	948	897.117
49	47.3163	149	141.003	249	235.635	349	330.268	449	424.901	549	519.533	649	614.166	749	708.799	849	803.431	949	898.064

50	47.3163	150	141.949	250	236.582	350	331.214	450	425.847	550	520.480	650	615.112	750	709.745	850	804.377	950	899.010
51	48.2626	151	142.895	251	237.528	351	332.161	451	426.793	551	521.426	651	616.059	751	710.691	851	805.324	951	899.956
52	49.2090	152	143.842	252	238.474	352	333.107	452	427.740	552	522.372	652	617.000	752	711.637	852	806.270	952	900.903
53	50.1553	153	144.788	253	239.421	353	334.053	453	428.686	553	523.319	653	617.951	753	712.584	853	807.216	953	901.849
54	51.1016	154	145.734	254	240.367	354	335.000	454	429.632	554	524.265	654	618.898	754	713.530	854	808.163	954	902.795
55	52.0480	155	146.681	255	241.313	355	335.946	455	430.579	555	525.211	655	619.844	755	714.476	855	809.109	955	903.742
56	53.0406	156	147.627	256	242.260	356	336.892	456	431.525	556	526.158	656	620.790	756	715.423	856	810.055	956	904.688
57	54.0369	157	148.573	257	243.206	357	337.839	457	432.471	557	527.104	657	621.736	757	716.369	857	811.002	957	905.634
58	55.0333	158	149.520	258	244.152	358	338.781	458	433.418	558	528.050	658	622.683	758	717.315	858	811.948	958	906.581
59	56.0297	159	150.466	259	245.099	359	339.731	459	434.364	559	528.996	659	623.629	759	718.262	859	812.894	959	907.527
60	57.0261	160	151.412	260	246.045	360	340.678	460	435.310	560	529.943	660	624.575	760	719.208	860	813.841	960	908.473
61	58.0225	161	152.359	261	246.991	361	341.624	461	436.256	561	530.889	661	625.522	761	720.154	861	814.787	961	909.420
62	59.0189	162	153.305	262	247.938	362	342.570	462	437.203	562	531.835	662	626.468	762	721.101	862	815.733	962	910.366
63	60.0153	163	154.251	263	248.884	363	343.517	463	438.149	563	532.782	663	627.414	763	722.047	863	816.680	963	911.312
64	61.0117	164	155.198	264	249.830	364	344.463	464	439.095	564	533.728	664	628.361	764	722.993	864	817.626	964	912.259
65	62.0081	165	156.144	265	250.777	365	345.409	465	440.041	565	534.674	665	629.307	765	723.940	865	818.572	965	913.205
66	63.0045	166	157.090	266	251.723	366	346.355	466	440.988	566	535.621	666	630.253	766	724.886	866	819.519	966	914.151
67	64.0009	167	158.037	267	252.669	367	347.302	467	441.934	567	536.567	667	631.200	767	725.832	867	820.465	967	915.098
68	65.0073	168	158.983	268	253.615	368	348.248	468	442.881	568	537.513	668	632.146	768	726.779	868	821.411	968	916.044
69	66.0037	169	159.929	269	254.562	369	349.194	469	443.827	569	538.460	669	633.092	769	727.725	869	822.358	969	916.990
70	67.0001	170	160.875	270	255.508	370	350.141	470	444.773	570	539.406	670	634.039	770	728.671	870	823.304	970	917.937
71	68.0065	171	161.822	271	256.454	371	351.087	471	445.720	571	540.352	671	635.031	771	729.618	871	824.250	971	918.883
72	69.0129	172	162.768	272	257.401	372	352.033	472	446.666	572	541.299	672	636.031	772	730.564	872	825.197	972	919.829
73	70.0193	173	163.714	273	258.347	373	352.980	473	447.612	573	542.245	673	637.031	773	731.510	873	826.143	973	920.776
74	71.0257	174	164.661	274	259.293	374	353.926	474	448.559	574	543.191	674	638.031	774	732.457	874	827.089	974	921.722
75	72.0321	175	165.607	275	260.240	375	354.872	475	449.505	575	544.138	675	639.031	775	733.403	875	828.036	975	922.668
76	73.0385	176	166.553	276	261.186	376	355.819	476	450.451	576	545.084	676	640.031	776	734.349	876	828.982	976	923.615
77	74.0449	177	167.500	277	262.132	377	356.765	477	451.398	577	546.030	677	641.031	777	735.296	877	829.928	977	924.561
78	75.0513	178	168.446	278	263.079	378	357.711	478	452.344	578	546.977	678	642.031	778	736.242	878	830.875	978	925.507
79	76.0577	179	169.392	279	264.025	379	358.658	479	453.290	579	547.923	679	643.031	779	737.188	879	831.821	979	926.454
80	77.0641	180	170.339	280	264.971	380	359.604	480	454.237	580	548.869	680	644.031	780	738.135	880	832.767	980	927.400
81	78.0705	181	171.285	281	265.918	381	360.550	481	455.183	581	549.816	681	645.031	781	739.081	881	833.714	981	928.346
82	79.0769	182	172.231	282	266.864	382	361.497	482	456.129	582	550.762	682	646.031	782	740.027	882	834.660	982	929.293
83	80.0833	183	173.178	283	267.810	383	362.443	483	457.076	583	551.708	683	647.031	783	740.974	883	835.606	983	930.239
84	81.0897	184	174.124	284	268.757	384	363.389	484	458.022	584	552.655	684	648.031	784	741.920	884	836.553	984	931.185
85	82.0961	185	175.070	285	269.703	385	364.336	485	458.968	585	553.601	685	649.031	785	742.866	885	837.499	985	932.132
86	83.1025	186	176.017	286	270.649	386	365.282	486	459.915	586	554.547	686	650.031	786	743.813	886	838.445	986	933.078
87	84.1089	187	176.963	287	271.596	387	366.228	487	460.861	587	555.494	687	651.031	787	744.759	887	839.392	987	934.024
88	85.1153	188	177.909	288	272.542	388	367.175	488	461.807	588	556.440	688	652.031	788	745.705	888	840.338	988	934.971
89	86.1217	189	178.856	289	273.488	389	368.121	489	462.754	589	557.386	689	653.031	789	746.652	889	841.284	989	935.917
90	87.1281	190	179.802	290	274.435	390	369.067	490	463.700	590	558.333	690	654.031	790	747.598	890	842.231	990	936.863
91	88.1345	191	180.748	291	275.381	391	370.014	491	464.646	591	559.279	691	655.031	791	748.544	891	843.177	991	937.810
92	89.1409	192	181.694	292	276.327	392	370.960	492	465.593	592	560.225	692	656.031	792	749.491	892	844.123	992	938.756
93	90.1473	193	182.640	293	277.274	393	371.906	493	466.539	593	561.172	693	657.031	793	750.437	893	845.070	993	939.702
94	91.1537	194	183.586	294	278.220	394	372.853	494	467.485	594	562.118	694	658.031	794	751.383	894	846.016	994	940.648
95	92.1601	195	184.532	295	279.166	395	373.799	495	468.432	595	563.064	695	659.031	795	752.329	895	846.962	995	941.595
96	93.1665	196	185.478	296	280.113	396	374.745	496	469.378	596	564.011	696	660.031	796	753.276	896	847.908	996	942.541
97	94.1729	197	186.424	297	281.059	397	375.692	497	470.324	597	564.957	697	661.031	797	754.222	897	848.855	997	943.487
98	95.1793	198	187.370	298	282.005	398	376.638	498	471.271	598	565.903	698	662.031	798	755.169	898	849.801	998	944.434
99	96.1857	199	188.316	299	282.952	399	377.584	499	472.217	599	566.850	699	663.031	799	756.115	899	850.747	999	945.380

[Reduction Factor: 1 liter = 1.056 718 liquid quarts]

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50	52.8359	150	158.508	250	204.180	350	369.851	450	475.523	550	581.195	650	686.867	750	792.539	850	898.210	950	1003.882
51	53.8926	151	159.564	251	205.236	351	370.908	451	476.580	551	582.252	651	687.923	751	793.595	851	899.267	951	1004.939
52	54.9493	152	160.621	252	206.293	352	371.965	452	477.637	552	583.308	652	688.980	752	794.652	852	900.324	952	1005.996
53	56.0061	153	161.678	253	207.350	353	373.021	453	478.693	553	584.365	653	690.037	753	795.709	853	901.380	953	1007.052
54	57.0628	154	162.735	254	208.406	354	374.078	454	479.750	554	585.422	654	691.094	754	796.765	854	902.437	954	1008.109
55	58.1195	155	163.791	255	209.463	355	375.135	455	480.807	555	586.478	655	692.150	755	797.822	855	903.494	955	1009.166
56	59.1762	156	164.848	256	210.520	356	376.192	456	481.863	556	587.535	656	693.207	756	798.879	856	904.551	956	1010.222
57	60.2329	157	165.905	257	211.577	357	377.248	457	482.920	557	588.592	657	694.264	757	799.936	857	905.607	957	1011.279
58	61.2896	158	166.961	258	212.633	358	378.305	458	483.977	558	589.649	658	695.280	758	800.992	858	906.664	958	1012.336
59	62.3464	159	168.018	259	213.690	359	379.362	459	485.034	559	590.705	659	696.377	759	802.049	859	907.721	959	1013.393
60	63.4031	160	169.075	260	214.747	360	380.418	460	486.090	560	591.762	660	697.434	760	803.106	860	908.777	960	1014.449
61	64.4598	161	170.132	261	215.803	361	381.475	461	487.147	561	592.819	661	698.491	761	804.162	861	909.834	961	1015.506
62	65.5165	162	171.188	262	216.860	362	382.532	462	488.204	562	593.876	662	699.547	762	805.219	862	910.891	962	1016.563
63	66.5732	163	172.245	263	217.917	363	383.589	463	489.261	563	594.932	663	700.604	763	806.276	863	911.948	963	1017.619
64	67.6300	164	173.302	264	218.974	364	384.645	464	490.317	564	595.989	664	701.661	764	807.333	864	913.004	964	1018.676
65	68.6867	165	174.358	265	219.030	365	385.702	465	491.374	565	597.046	665	702.717	765	808.389	865	914.061	965	1019.733
66	69.7434	166	175.415	266	220.087	366	386.759	466	492.431	566	598.102	666	703.773	766	809.446	866	915.118	966	1020.790
67	70.8001	167	176.472	267	221.144	367	387.816	467	493.487	567	599.159	667	704.831	767	810.503	867	916.175	967	1021.846
68	71.8568	168	177.529	268	222.200	368	388.872	468	494.544	568	600.216	668	705.888	768	811.559	868	917.231	968	1022.903
69	72.9135	169	178.586	269	223.257	369	389.929	469	495.601	569	601.273	669	706.944	769	812.616	869	918.288	969	1023.960
70	73.9703	170	179.642	270	224.314	370	390.986	470	496.657	570	602.329	670	708.001	770	813.673	870	919.345	970	1025.016
71	75.0270	171	180.699	271	225.371	371	392.042	471	497.714	571	603.386	671	709.058	771	814.730	871	920.401	971	1026.073
72	76.0837	172	181.755	272	226.427	372	393.099	472	498.771	572	604.443	672	710.114	772	815.786	872	921.458	972	1027.130
73	77.1404	173	182.812	273	227.484	373	394.156	473	499.828	573	605.499	673	711.171	773	816.843	873	922.515	973	1028.187
74	78.1971	174	183.869	274	228.541	374	395.213	474	500.884	574	606.556	674	712.228	774	817.900	874	923.572	974	1029.243
75	79.2539	175	184.926	275	229.597	375	396.269	475	501.941	575	607.613	675	713.285	775	818.956	875	924.628	975	1030.300
76	80.3106	176	185.982	276	230.654	376	397.326	476	502.998	576	608.670	676	714.341	776	820.013	876	925.685	976	1031.357
77	81.3673	177	187.039	277	231.711	377	398.383	477	504.054	577	609.726	677	715.398	777	821.070	877	926.742	977	1032.413
78	82.4240	178	188.096	278	232.768	378	399.439	478	505.111	578	610.783	678	716.455	778	822.127	878	927.798	978	1033.470
79	83.4807	179	189.153	279	233.824	379	400.496	479	506.168	579	611.840	679	717.512	779	823.183	879	928.855	979	1034.527
80	84.5374	180	190.209	280	234.881	380	401.553	480	507.225	580	612.896	680	718.568	780	824.240	880	929.912	980	1035.584
81	85.5942	181	191.266	281	235.938	381	402.610	481	508.281	581	613.953	681	719.625	781	825.297	881	930.969	981	1036.640
82	86.6509	182	192.323	282	236.994	382	403.666	482	509.338	582	615.010	682	720.682	782	826.353	882	932.025	982	1037.697
83	87.7076	183	193.379	283	238.051	383	404.723	483	510.395	583	616.067	683	721.739	783	827.410	883	933.082	983	1038.754
84	88.7643	184	194.436	284	239.108	384	405.780	484	511.452	584	617.123	684	722.795	784	828.467	884	934.139	984	1039.811
85	89.8210	185	195.493	285	240.165	385	406.836	485	512.508	585	618.180	685	723.852	785	829.524	885	935.195	985	1040.867
86	90.8777	186	196.550	286	241.221	386	407.893	486	513.565	586	619.237	686	724.909	786	830.580	886	936.252	986	1041.924
87	91.9345	187	197.606	287	242.278	387	408.950	487	514.622	587	620.293	687	725.965	787	831.637	887	937.309	987	1042.981
88	92.9912	188	198.663	288	243.335	388	410.007	488	515.678	588	621.350	688	727.022	788	832.694	888	938.366	988	1044.037
89	94.0479	189	199.720	289	244.392	389	411.063	489	516.735	589	622.407	689	728.079	789	833.751	889	939.422	989	1045.094
90	95.1046	190	200.776	290	245.448	390	412.120	490	517.792	590	623.464	690	729.135	790	834.807	890	940.479	990	1046.151
91	96.1613	191	201.833	291	246.505	391	413.177	491	518.849	591	624.520	691	730.192	791	835.864	891	941.536	991	1047.208
92	97.2181	192	202.890	292	247.562	392	414.233	492	519.905	592	625.577	692	731.249	792	836.921	892	942.592	992	1048.264
93	98.2748	193	203.947	293	248.619	393	415.290	493	520.962	593	626.634	693	732.306	793	837.977	893	943.649	993	1049.321
94	99.3315	194	205.003	294	249.675	394	416.347	494	521.019	594	627.690	694	733.362	794	839.034	894	944.705	994	1050.378
95	100.3882	195	206.060	295	250.732	395	417.404	495	522.075	595	628.747	695	734.419	795	840.091	895	945.761	995	1051.434
96	101.4449	196	207.117	296	251.789	396	418.460	496	523.132	596	629.804	696	735.476	796	841.148	896	946.819	996	1052.491
97	102.5016	197	208.173	297	252.846	397	419.517	497	524.189	597	630.861	697	736.532	797	842.204	897	947.876	997	1053.548
98	103.5584	198	209.230	298	253.902	398	420.574	498	525.246	598	631.917	698	737.589	798	843.261	898	948.933	998	1054.605
99	104.6151	199	210.287	299	254.959	399	421.630	499	526.302	599	632.974	699	738.646	799	844.318	899	949.989	999	1055.661

[Reduction Factor: 1 gallon = 3.785 3058 liters]

52

50	189.2653	150	567.796	250	946.326	350	1324.857	450	1703.358	550	2081.918	650	2460.449	750	2838.979	850	3217.510	950	3596.041
51	571.581	151	571.581	251	950.112	351	1328.642	451	1707.173	551	2085.703	651	2464.234	751	2842.765	851	3221.295	951	3599.826
52	570.366	152	570.366	252	953.897	352	1332.428	452	1710.958	552	2089.489	652	2468.019	752	2846.550	852	3225.081	952	3603.611
53	570.152	153	570.152	253	957.682	353	1336.213	453	1714.744	553	2093.274	653	2471.805	753	2850.335	853	3228.866	953	3607.396
54	569.937	154	569.937	254	961.468	354	1339.998	454	1718.529	554	2097.059	654	2475.590	754	2854.121	854	3232.651	954	3611.182
55	569.722	155	569.722	255	965.253	355	1343.784	455	1722.314	555	2100.845	655	2479.375	755	2857.906	855	3236.436	955	3614.967
56	569.508	156	569.508	256	969.038	356	1347.569	456	1726.099	556	2104.630	656	2483.160	756	2861.691	856	3240.222	956	3618.752
57	569.293	157	569.293	257	972.824	357	1351.354	457	1729.885	557	2108.415	657	2486.946	757	2865.476	857	3244.007	957	3622.538
58	569.078	158	569.078	258	976.609	358	1355.139	458	1733.670	558	2112.201	658	2490.731	758	2869.262	858	3247.792	958	3626.323
59	568.864	159	568.864	259	980.394	359	1358.925	459	1737.455	559	2115.986	659	2494.517	759	2873.047	859	3251.578	959	3630.108
60	605.649	160	605.649	260	984.180	360	1362.710	460	1741.241	560	2119.771	660	2498.302	760	2876.832	860	3255.363	960	3633.894
61	605.434	161	605.434	261	987.965	361	1366.495	461	1745.026	561	2123.557	661	2502.087	761	2880.618	861	3259.148	961	3637.679
62	613.220	162	613.220	262	991.750	362	1370.281	462	1748.811	562	2127.342	662	2505.872	762	2884.403	862	3262.934	962	3641.464
63	617.005	163	617.005	263	995.535	363	1374.066	463	1752.597	563	2131.127	663	2509.658	763	2888.188	863	3266.719	963	3645.249
64	620.790	164	620.790	264	999.321	364	1377.851	464	1756.382	564	2134.912	664	2513.443	764	2891.974	864	3270.504	964	3649.035
65	624.575	165	624.575	265	1003.106	365	1381.637	465	1760.167	565	2138.698	665	2517.228	765	2895.759	865	3274.290	965	3652.820
66	628.361	166	628.361	266	1006.891	366	1385.422	466	1763.953	566	2142.483	666	2521.014	766	2899.544	866	3278.075	966	3656.605
67	632.146	167	632.146	267	1010.677	367	1389.207	467	1767.738	567	2146.268	667	2524.799	767	2903.330	867	3281.860	967	3660.391
68	635.931	168	635.931	268	1014.462	368	1392.993	468	1771.523	568	2150.054	668	2528.584	768	2907.115	868	3285.645	968	3664.176
69	639.717	169	639.717	269	1018.247	369	1396.778	469	1775.308	569	2153.839	669	2532.370	769	2910.900	869	3289.431	969	3667.961
70	643.502	170	643.502	270	1022.033	370	1400.563	470	1779.094	570	2157.624	670	2536.155	770	2914.685	870	3293.216	970	3671.747
71	647.287	171	647.287	271	1025.818	371	1404.348	471	1782.879	571	2161.410	671	2539.940	771	2918.471	871	3297.001	971	3675.532
72	651.073	172	651.073	272	1029.603	372	1408.134	472	1786.664	572	2165.195	672	2543.725	772	2922.256	872	3300.787	972	3679.317
73	654.858	173	654.858	273	1033.388	373	1411.919	473	1790.450	573	2168.980	673	2547.511	773	2926.041	873	3304.572	973	3683.103
74	658.643	174	658.643	274	1037.174	374	1415.704	474	1794.235	574	2172.766	674	2551.296	774	2929.827	874	3308.357	974	3686.888
75	662.429	175	662.429	275	1040.959	375	1419.490	475	1798.020	575	2176.551	675	2555.081	775	2933.612	875	3312.143	975	3690.673
76	666.214	176	666.214	276	1044.744	376	1423.275	476	1801.806	576	2180.336	676	2558.867	776	2937.397	876	3315.928	976	3694.458
77	669.999	177	669.999	277	1048.530	377	1427.060	477	1805.591	577	2184.121	677	2562.652	777	2941.183	877	3319.713	977	3698.244
78	673.784	178	673.784	278	1052.315	378	1430.846	478	1809.376	578	2187.907	678	2566.437	778	2944.968	878	3323.498	978	3702.029
79	677.570	179	677.570	279	1056.100	379	1434.631	479	1813.161	579	2191.692	679	2570.223	779	2948.753	879	3327.284	979	3705.814
80	681.355	180	681.355	280	1059.886	380	1438.416	480	1816.947	580	2195.477	680	2574.008	780	2952.539	880	3331.069	980	3709.600
81	685.140	181	685.140	281	1063.671	381	1442.202	481	1820.732	581	2199.263	681	2577.793	781	2956.324	881	3334.854	981	3713.385
82	688.926	182	688.926	282	1067.456	382	1445.987	482	1824.517	582	2203.048	682	2581.579	782	2960.109	882	3338.640	982	3717.170
83	692.711	183	692.711	283	1071.242	383	1449.772	483	1828.303	583	2206.833	683	2585.364	783	2963.894	883	3342.425	983	3720.956
84	696.496	184	696.496	284	1075.027	384	1453.557	484	1832.088	584	2210.619	684	2589.149	784	2967.680	884	3346.210	984	3724.741
85	700.282	185	700.282	285	1078.812	385	1457.343	485	1835.873	585	2214.404	685	2592.934	785	2971.465	885	3349.996	985	3728.526
86	704.067	186	704.067	286	1082.597	386	1461.128	486	1839.659	586	2218.189	686	2596.720	786	2975.250	886	3353.781	986	3732.312
87	707.852	187	707.852	287	1086.383	387	1464.913	487	1843.444	587	2221.975	687	2600.505	787	2979.036	887	3357.566	987	3736.097
88	711.637	188	711.637	288	1090.168	388	1468.699	488	1847.229	588	2225.760	688	2604.290	788	2982.821	888	3361.352	988	3739.882
89	715.423	189	715.423	289	1093.953	389	1472.484	489	1851.015	589	2229.545	689	2608.076	789	2986.606	889	3365.137	989	3743.667
90	719.208	190	719.208	290	1097.739	390	1476.269	490	1854.800	590	2233.330	690	2611.861	790	2990.392	890	3368.922	990	3747.453
91	722.993	191	722.993	291	1101.524	391	1480.055	491	1858.585	591	2237.116	691	2615.646	791	2994.177	891	3372.707	991	3751.238
92	726.779	192	726.779	292	1105.309	392	1483.840	492	1862.370	592	2240.901	692	2619.432	792	2997.962	892	3376.493	992	3755.023
93	730.564	193	730.564	293	1109.095	393	1487.625	493	1866.156	593	2244.686	693	2623.217	793	3001.747	893	3380.278	993	3758.809
94	734.349	194	734.349	294	1112.880	394	1491.410	494	1869.941	594	2248.472	694	2627.002	794	3005.533	894	3384.063	994	3762.594
95	738.135	195	738.135	295	1116.665	395	1495.196	495	1873.726	595	2252.257	695	2630.788	795	3009.318	895	3387.849	995	3766.379
96	741.920	196	741.920	296	1120.451	396	1498.981	496	1877.512	596	2256.042	696	2634.573	796	3013.103	896	3391.634	996	3770.165
97	745.705	197	745.705	297	1124.236	397	1502.766	497	1881.297	597	2259.828	697	2638.358	797	3016.889	897	3395.419	997	3773.950
98	749.491	198	749.491	298	1128.021	398	1506.552	498	1885.082	598	2263.613	698	2642.143	798	3020.674	898	3399.205	998	3777.735
99	753.276	199	753.276	299	1131.806	399	1510.337	499	1888.868	599	2267.398	699	2645.929	799	3024.459	899	3402.990	999	3781.520

9.14. CAPACITY—LITERS TO GALLONS

[Reduction Factor: 1 liter = 0.264 179 45 gallon]

Liters	Gallons	Liters	Gallons	Liters	Gallons	Liters	Gallons	Liters	Gallons	Liters	Gallons	Liters	Gallons	Liters	Gallons	Liters	Gallons	Liters	Gallons
0	0.26418	100	26.4179	200	52.8359	300	79.2538	400	105.6718	500	132.0897	600	158.5077	700	184.9256	800	211.3436	900	237.7615
1	0.26418	101	26.6821	201	53.1001	301	79.5180	401	105.9360	501	132.3539	601	158.7718	701	185.1898	801	211.6077	901	238.0257
2	0.52836	102	26.9463	202	53.3642	302	79.7822	402	106.2002	502	132.6181	602	159.0360	702	185.4540	802	211.8719	902	238.2896
3	0.79254	103	27.2105	203	53.6204	303	80.0464	403	106.4643	503	132.8823	603	159.3002	703	185.7182	803	212.1361	903	238.5535
4	1.05672	104	27.4747	204	53.8826	304	80.3106	404	106.7285	504	133.1464	604	159.5644	704	185.9823	804	212.4003	904	238.8182
5	1.32090	105	27.7388	205	54.1410	305	80.5747	405	106.9927	505	133.4106	605	159.8286	705	186.2465	805	212.6645	905	239.0824
6	1.58508	106	28.0030	206	54.4210	306	80.8389	406	107.2569	506	133.6748	606	160.0927	706	186.5107	806	212.9286	906	239.3468
7	1.84926	107	28.2672	207	54.6851	307	81.1031	407	107.5210	507	133.9390	607	160.3569	707	186.7749	807	213.1928	907	239.6108
8	2.11344	108	28.5314	208	54.9493	308	81.3673	408	107.7852	508	134.2032	608	160.6211	708	187.0391	808	213.4570	908	239.8749
9	2.37762	109	28.7956	209	55.2135	309	81.6315	409	108.0494	509	134.4673	609	160.8853	709	187.3032	809	213.7212	909	240.1391
10	2.64179	110	29.0597	210	55.4777	310	81.8956	410	108.3136	510	134.7315	610	161.1495	710	187.5674	810	213.9854	910	240.4033
11	2.90597	111	29.3239	211	55.7419	311	82.1598	411	108.5778	511	134.9957	611	161.4136	711	187.8316	811	214.2495	911	240.6675
12	3.17015	112	29.5881	212	56.0060	312	82.4240	412	108.8419	512	135.2599	612	161.6778	712	188.0958	812	214.5137	912	240.9317
13	3.43433	113	29.8523	213	56.2702	313	82.6882	413	109.1061	513	135.5241	613	161.9420	713	188.3599	813	214.7779	913	241.1958
14	3.69851	114	30.1165	214	56.5344	314	82.9523	414	109.3703	514	135.7882	614	162.2062	714	188.6241	814	215.0421	914	241.4600
15	3.96269	115	30.3806	215	56.7986	315	83.2165	415	109.6345	515	136.0524	615	162.4704	715	188.8883	815	215.3063	915	241.7242
16	4.22687	116	30.6448	216	57.0628	316	83.4807	416	109.8987	516	136.3166	616	162.7345	716	189.1525	816	215.5704	916	241.9884
17	4.49105	117	30.9090	217	57.3269	317	83.7449	417	110.1628	517	136.5808	617	162.9987	717	189.4167	817	215.8346	917	242.2525
18	4.75523	118	31.1732	218	57.5911	318	84.0091	418	110.4270	518	136.8450	618	163.2629	718	189.6808	818	216.0988	918	242.5167
19	5.01941	119	31.4374	219	57.8553	319	84.2732	419	110.6912	519	137.1091	619	163.5271	719	189.9450	819	216.3630	919	242.7809
20	5.28359	120	31.7015	220	58.1195	320	84.5374	420	110.9554	520	137.3733	620	163.7913	720	190.2092	820	216.6271	920	243.0451
21	5.54777	121	31.9657	221	58.3837	321	84.8016	421	111.2195	521	137.6375	621	164.0556	721	190.4734	821	216.8913	921	243.3093
22	5.81195	122	32.2299	222	58.6478	322	85.0658	422	111.4837	522	137.9017	622	164.3198	722	190.7376	822	217.1555	922	243.5735
23	6.07613	123	32.4941	223	58.9120	323	85.3300	423	111.7479	523	138.1659	623	164.5840	723	191.0017	823	217.4197	923	243.8376
24	6.34031	124	32.7583	224	59.1762	324	85.5941	424	112.0121	524	138.4300	624	164.8480	724	191.2659	824	217.6839	924	244.1018
25	6.60449	125	33.0224	225	59.4404	325	85.8583	425	112.2763	525	138.6942	625	165.1122	725	191.5301	825	217.9480	925	244.3660
26	6.86867	126	33.2866	226	59.7046	326	86.1225	426	112.5404	526	138.9584	626	165.3763	726	191.7943	826	218.2122	926	244.6302
27	7.13285	127	33.5508	227	59.9687	327	86.3867	427	112.8046	527	139.2226	627	165.6405	727	192.0585	827	218.4764	927	244.8944
28	7.39702	128	33.8150	228	60.2329	328	86.6509	428	113.0688	528	139.4867	628	165.9047	728	192.3226	828	218.7406	928	245.1585
29	7.66120	129	34.0791	229	60.4971	329	86.9150	429	113.3330	529	139.7509	629	166.1689	729	192.5868	829	219.0048	929	245.4227
30	7.92538	130	34.3433	230	60.7613	330	87.1792	430	113.5972	530	140.0151	630	166.4331	730	192.8510	830	219.2690	930	245.6869
31	8.18956	131	34.6075	231	61.0255	331	87.4434	431	113.8613	531	140.2793	631	166.6972	731	193.1152	831	219.5331	931	245.9511
32	8.45374	132	34.8717	232	61.2896	332	87.7076	432	114.1255	532	140.5435	632	166.9614	732	193.3794	832	219.7973	932	246.2152
33	8.71792	133	35.1359	233	61.5538	333	87.9718	433	114.3897	533	140.8076	633	167.2256	733	193.6435	833	220.0615	933	246.4794
34	8.98210	134	35.4000	234	61.8180	334	88.2359	434	114.6539	534	141.0718	634	167.4898	734	193.9077	834	220.3257	934	246.7435
35	9.24628	135	35.6642	235	62.0822	335	88.5001	435	114.9181	535	141.3360	635	167.7540	735	194.1719	835	220.5899	935	247.0078
36	9.51046	136	35.9284	236	62.3464	336	88.7643	436	115.1822	536	141.6002	636	168.0181	736	194.4361	836	220.8540	936	247.2720
37	9.77464	137	36.1926	237	62.6105	337	89.0285	437	115.4464	537	141.8644	637	168.2823	737	194.7003	837	221.1182	937	247.5361
38	10.03882	138	36.4568	238	62.8747	338	89.2927	438	115.7106	538	142.1285	638	168.5465	738	194.9644	838	221.3824	938	247.8003
39	10.30300	139	36.7209	239	63.1389	339	89.5568	439	115.9748	539	142.3927	639	168.8107	739	195.2286	839	221.6466	939	248.0645
40	10.56718	140	36.9851	240	63.4031	340	89.8210	440	116.2390	540	142.6569	640	169.0748	740	195.4928	840	221.9107	940	248.3287
41	10.83136	141	37.2493	241	63.6672	341	90.0852	441	116.5031	541	142.9211	641	169.3390	741	195.7570	841	222.1749	941	248.5929
42	11.09554	142	37.5135	242	63.9314	342	90.3494	442	116.7673	542	143.1853	642	169.6032	742	196.0212	842	222.4391	942	248.8570
43	11.35972	143	37.7777	243	64.1956	343	90.6136	443	117.0315	543	143.4494	643	169.8674	743	196.2853	843	222.7033	943	249.1212
44	11.62390	144	38.0418	244	64.4598	344	90.8777	444	117.2957	544	143.7136	644	170.1316	744	196.5495	844	222.9675	944	249.3854
45	11.88808	145	38.3060	245	64.7240	345	91.1419	445	117.5599	545	143.9778	645	170.3957	745	196.8137	845	223.2316	945	249.6496
46	12.15225	146	38.5702	246	64.9881	346	91.4061	446	117.8240	546	144.2420	646	170.6599	746	197.0779	846	223.4958	946	249.9138
47	12.41643	147	38.8344	247	65.2523	347	91.6703	447	118.0882	547	144.5062	647	170.9241	747	197.3421	847	223.7600	947	250.1779
48	12.68061	148	39.0986	248	65.5165	348	91.9344	448	118.3524	548	144.7703	648	171.1883	748	197.6062	848	224.0242	948	250.4421
49	12.94479	149	39.3627	249	65.7807	349	92.1986	449	118.6166	549	145.0345	649	171.4525	749	197.8704	849	224.2884	949	250.7063

50	13.20897	150	39.6369	250	66.0449	350	92.4828	450	118.8808	550	145.2987	650	171.7166	750	198.1346	850	224.5525	950	250.9705
51	13.77315	151	39.8911	251	66.3080	351	92.7270	451	119.1449	551	145.5621	651	171.9808	751	198.3988	851	224.8167	951	251.2347
52	13.79733	152	40.1553	252	66.5732	352	92.9912	452	119.4099	552	145.8279	652	172.2450	752	198.6629	852	225.0809	952	251.4988
53	14.00155	153	40.4195	253	66.8374	353	93.2553	453	119.6733	553	146.0912	653	172.5092	753	198.9271	853	225.3451	953	251.7629
54	14.20580	154	40.6836	254	67.1016	354	93.5195	454	119.9375	554	146.3554	654	172.7734	754	199.1913	854	225.6093	954	252.0272
55	14.52987	155	40.9478	255	67.3658	355	93.7837	455	120.2016	555	146.6196	655	173.0375	755	199.4555	855	225.8734	955	252.2914
56	14.79105	156	41.2120	256	67.6299	356	94.0479	456	120.4658	556	146.8838	656	173.3017	756	199.7197	856	226.1376	956	252.5556
57	15.05223	157	41.4762	257	67.8940	357	94.3121	457	120.7300	557	147.1480	657	173.5659	757	199.9838	857	226.4018	957	252.8198
58	15.32241	158	41.7404	258	68.1583	358	94.5762	458	120.9942	558	147.4121	658	173.8301	758	200.2480	858	226.6660	958	253.0839
59	15.58659	159	42.0045	259	68.4225	359	94.8404	459	121.2584	559	147.6763	659	174.0943	759	200.5122	859	226.9301	959	253.3481
60	15.85077	160	42.2687	260	68.6867	360	95.1046	460	121.5225	560	147.9405	660	174.3584	760	200.7764	860	227.1943	960	253.6123
61	16.11495	161	42.5320	261	68.9508	361	95.3688	461	121.7867	561	148.2047	661	174.6226	761	201.0406	861	227.4585	961	253.8765
62	16.37913	162	42.7971	262	69.2150	362	95.6330	462	122.0509	562	148.4689	662	174.8868	762	201.3047	862	227.7227	962	254.1406
63	16.64331	163	43.0613	263	69.4792	363	95.8971	463	122.3151	563	148.7330	663	175.1510	763	201.5689	863	227.9869	963	254.4048
64	16.90748	164	43.3254	264	69.7434	364	96.1613	464	122.5793	564	149.0072	664	175.4152	764	201.8331	864	228.2510	964	254.6690
65	17.17166	165	43.5896	265	70.0076	365	96.4255	465	122.8434	565	149.2614	665	175.6793	765	202.0973	865	228.5152	965	254.9332
66	17.43584	166	43.8538	266	70.2717	366	96.6897	466	123.1076	566	149.5256	666	175.9435	766	202.3615	866	228.7794	966	255.1973
67	17.69992	167	44.1180	267	70.5359	367	96.9539	467	123.3718	567	149.7897	667	176.2077	767	202.6256	867	229.0436	967	255.4615
68	17.96420	168	44.3821	268	70.8001	368	97.2182	468	123.6360	568	150.0539	668	176.4719	768	202.8898	868	229.3078	968	255.7257
69	18.22838	169	44.6463	269	71.0643	369	97.4822	469	123.9002	569	150.3181	669	176.7361	769	203.1540	869	229.5719	969	255.9899
70	18.49256	170	44.9105	270	71.3285	370	97.7464	470	124.1643	570	150.5823	670	177.0002	770	203.4182	870	229.8361	970	256.2541
71	18.75674	171	45.1747	271	71.5926	371	98.0106	471	124.4285	571	150.8465	671	177.2644	771	203.6824	871	230.1003	971	256.5182
72	19.02092	172	45.4389	272	71.8568	372	98.2748	472	124.6927	572	151.1106	672	177.5286	772	203.9465	872	230.3645	972	256.7824
73	19.28510	173	45.7030	273	72.1210	373	98.5389	473	124.9569	573	151.3748	673	177.7928	773	204.2107	873	230.6287	973	257.0466
74	19.54928	174	45.9672	274	72.3852	374	98.8031	474	125.2211	574	151.6390	674	178.0569	774	204.4749	874	230.8928	974	257.3108
75	19.81346	175	46.2314	275	72.6493	375	99.0673	475	125.4852	575	151.9032	675	178.3211	775	204.7391	875	231.1570	975	257.5750
76	20.07764	176	46.4956	276	72.9135	376	99.3315	476	125.7494	576	152.1674	676	178.5853	776	205.0033	876	231.4212	976	257.8391
77	20.34182	177	46.7598	277	73.1777	377	99.5957	477	126.0136	577	152.4315	677	178.8495	777	205.2674	877	231.6854	977	258.1033
78	20.60600	178	47.0239	278	73.4419	378	99.8598	478	126.2778	578	152.6957	678	179.1137	778	205.5316	878	231.9496	978	258.3675
79	20.87018	179	47.2881	279	73.7061	379	100.1240	479	126.5420	579	152.9599	679	179.3778	779	205.7958	879	232.2137	979	258.6317
80	21.13436	180	47.5523	280	73.9702	380	100.3882	480	126.8061	580	153.2241	680	179.6420	780	206.0600	880	232.4779	980	258.8959
81	21.39854	181	47.8165	281	74.2344	381	100.6524	481	127.0703	581	153.4883	681	179.9062	781	206.3242	881	232.7421	981	259.1600
82	21.66271	182	48.0807	282	74.4986	382	100.9165	482	127.3345	582	153.7524	682	180.1704	782	206.5883	882	233.0063	982	259.4242
83	21.92689	183	48.3448	283	74.7628	383	101.1807	483	127.5987	583	154.0166	683	180.4346	783	206.8525	883	233.2705	983	259.6884
84	22.19107	184	48.6090	284	75.0270	384	101.4449	484	127.8629	584	154.2808	684	180.6987	784	207.1167	884	233.5346	984	259.9526
85	22.45525	185	48.8732	285	75.2911	385	101.7091	485	128.1270	585	154.5450	685	180.9629	785	207.3809	885	233.7988	985	260.2168
86	22.71943	186	49.1374	286	75.5553	386	101.9733	486	128.3912	586	154.8092	686	181.2271	786	207.6450	886	234.0630	986	260.4809
87	22.98361	187	49.4016	287	75.8195	387	102.2374	487	128.6554	587	155.0733	687	181.4913	787	207.9092	887	234.3272	987	260.7451
88	23.24779	188	49.6657	288	76.0837	388	102.5016	488	128.9196	588	155.3375	688	181.7555	788	208.1734	888	234.5914	988	261.0093
89	23.51197	189	49.9299	289	76.3479	389	102.7658	489	129.1838	589	155.6017	689	182.0196	789	208.4376	889	234.8555	989	261.2735
90	23.77615	190	50.1941	290	76.6120	390	103.0300	490	129.4479	590	155.8659	690	182.2838	790	208.7018	890	235.1197	990	261.5377
91	24.04033	191	50.4583	291	76.8762	391	103.2942	491	129.7121	591	156.1301	691	182.5480	791	208.9659	891	235.3839	991	261.8018
92	24.30451	192	50.7225	292	77.1404	392	103.5583	492	129.9763	592	156.3942	692	182.8122	792	209.2301	892	235.6481	992	262.0660
93	24.56869	193	50.9866	293	77.4046	393	103.8225	493	130.2405	593	156.6584	693	183.0764	793	209.4943	893	235.9122	993	262.3302
94	24.83287	194	51.2508	294	77.6688	394	104.0867	494	130.5046	594	156.9226	694	183.3405	794	209.7585	894	236.1764	994	262.5944
95	25.09705	195	51.5150	295	77.9329	395	104.3509	495	130.7688	595	157.1868	695	183.6047	795	210.0227	895	236.4406	995	262.8586
96	25.36123	196	51.7792	296	78.1971	396	104.6151	496	131.0330	596	157.4510	696	183.8689	796	210.2868	896	236.7048	996	263.1227
97	25.62541	197	52.0434	297	78.4613	397	104.8793	497	131.2972	597	157.7151	697	184.1331	797	210.5510	897	236.9690	997	263.3869
98	25.88959	198	52.3075	298	78.7255	398	105.1434	498	131.5614	598	157.9793	698	184.3973	798	210.8152	898	237.2331	998	263.6511
99	26.15377	199	52.5717	299	78.9897	399	105.4076	499	131.8255	599	158.2435	699	184.6614	799	211.0794	899	237.4973	999	263.9153

50	22.67962	150	68.03886	350	158.75733	450	204.11657	550	249.47580	650	204.83504	750	340.10426	850	385.55351	950	430.91275
51	23.13321	151	68.49245	351	159.21092	451	204.57016	551	250.92940	651	205.28863	751	341.04787	851	386.00711	951	431.30634
52	23.58580	152	68.94604	352	159.66451	452	205.02375	552	250.92940	652	205.28863	752	341.10146	852	386.40070	952	431.81994
53	24.04040	153	69.39963	353	160.11811	453	205.47734	553	251.38158	653	206.19322	753	341.10146	853	386.40070	953	432.27353
54	24.49399	154	69.85322	354	160.57170	454	205.93094	554	251.99017	654	206.64681	754	341.55505	854	387.30788	954	432.72712
55	24.94758	155	70.30682	355	161.02529	455	206.38453	555	251.73777	655	207.10300	755	342.00863	855	387.85148	955	433.18071
56	25.40117	156	70.76041	356	161.47888	456	206.83812	556	252.19736	656	207.55559	756	342.46123	856	388.27307	956	433.63451
57	25.85477	157	71.21400	357	161.93248	457	207.29151	557	252.65095	657	208.01019	757	342.91382	857	388.72606	957	434.08790
58	26.30836	158	71.66759	358	162.38607	458	207.74531	558	253.10454	658	208.46378	758	343.36641	858	389.18225	958	434.54149
59	26.76195	159	72.12119	359	162.83966	459	208.19890	559	253.55813	659	208.91737	759	343.81902	859	389.63585	959	434.99508
60	27.21554	160	72.57478	360	163.29325	460	208.65249	560	254.01173	660	209.37096	760	344.27200	860	390.08944	960	435.44868
61	27.66913	161	73.02837	361	163.74685	461	209.10608	561	254.46532	661	209.82456	761	344.72500	861	390.54303	961	435.90227
62	28.12273	162	73.48196	362	164.20044	462	209.55967	562	254.91891	662	210.27815	762	345.17800	862	390.99662	962	436.35586
63	28.57632	163	73.93556	363	164.65403	463	210.01327	563	255.37250	663	210.73174	763	345.63100	863	391.45021	963	436.80945
64	29.02991	164	74.38915	364	165.10762	464	210.46686	564	255.82609	664	211.18533	764	346.08459	864	391.90381	964	437.26304
65	29.48350	165	74.84274	365	165.56121	465	210.92045	565	256.27969	665	211.63893	765	346.53818	865	392.35740	965	437.71664
66	29.93710	166	75.29633	366	166.01481	466	211.37404	566	256.73328	666	212.09252	766	347.00000	866	392.81098	966	438.17023
67	30.39069	167	75.74993	367	166.46840	467	211.82764	567	257.18687	667	212.54611	767	347.45179	867	393.26458	967	438.62382
68	30.84428	168	76.20352	368	166.92199	468	212.28123	568	257.64047	668	213.00070	768	347.90358	868	393.71818	968	439.07741
69	31.29787	169	76.65711	369	167.37558	469	212.73482	569	258.09406	669	213.45430	769	348.35617	869	394.17177	969	439.53101
70	31.75147	170	77.11070	370	167.82918	470	213.18841	570	258.54765	670	213.90789	770	348.80876	870	394.62536	970	440.98460
71	32.20506	171	77.56430	371	168.28277	471	213.64200	571	259.00124	671	214.36148	771	349.26135	871	395.07895	971	441.43819
72	32.65865	172	78.01789	372	168.73636	472	214.09560	572	259.45483	672	214.81507	772	349.71394	872	395.53254	972	441.89178
73	33.11224	173	78.47148	373	169.18995	473	214.54919	573	259.90843	673	215.26866	773	350.16653	873	395.98613	973	442.34537
74	33.56584	174	78.92507	374	169.64355	474	215.00278	574	260.36202	674	215.72226	774	350.61912	874	396.43972	974	442.79896
75	34.01943	175	79.37866	375	170.09714	475	215.45638	575	260.81561	675	216.17585	775	351.07171	875	396.89331	975	443.25255
76	34.47302	176	79.83226	376	170.55073	476	215.90997	576	261.26921	676	216.62944	776	351.52430	876	397.34690	976	443.70614
77	34.92661	177	80.28585	377	171.00432	477	216.36356	577	261.72280	677	217.08303	777	351.97689	877	397.80049	977	444.15973
78	35.38020	178	80.73944	378	171.45792	478	216.81715	578	262.17639	678	217.53663	778	352.42948	878	398.25408	978	444.61332
79	35.83380	179	81.19303	379	171.91151	479	217.27075	579	262.62998	679	217.99022	779	352.88207	879	398.70767	979	445.06691
80	36.28739	180	81.64662	380	172.36510	480	217.72434	580	263.08357	680	218.44381	780	353.33466	880	399.16126	980	445.52050
81	36.74098	181	82.10022	381	172.81869	481	218.17793	581	263.53717	681	218.89740	781	353.78725	881	399.61485	981	445.97409
82	37.19457	182	82.55381	382	173.27229	482	218.63152	582	263.99076	682	219.35100	782	354.23984	882	400.06844	982	446.42768
83	37.64817	183	83.00740	383	173.72588	483	219.08511	583	264.44435	683	219.80459	783	354.69243	883	400.52203	983	446.88127
84	38.10176	184	83.46100	384	174.17947	484	219.53871	584	264.89794	684	220.25818	784	355.14502	884	400.97562	984	447.33486
85	38.55535	185	83.91459	385	174.63306	485	219.99230	585	265.35154	685	220.71177	785	355.59761	885	401.42921	985	447.78845
86	39.00894	186	84.36818	386	175.08665	486	220.44589	586	265.80513	686	221.16536	786	356.05020	886	401.88280	986	448.24204
87	39.46254	187	84.82177	387	175.54025	487	220.89948	587	266.25872	687	221.61895	787	356.50279	887	402.33639	987	448.69563
88	39.91613	188	85.27537	388	175.99384	488	221.35308	588	266.71231	688	222.07255	788	356.95538	888	402.79002	988	449.14922
89	40.36972	189	85.72896	389	176.44743	489	221.80667	589	267.16591	689	222.52614	789	357.40797	889	403.24362	989	449.60281
90	40.82331	190	86.18255	390	176.90102	490	222.26026	590	267.61950	690	222.97974	790	357.86056	890	403.69721	990	450.05640
91	41.27691	191	86.63614	391	177.35462	491	222.71385	591	268.07309	691	223.43333	791	358.31315	891	404.15080	991	450.50999
92	41.73050	192	87.08974	392	177.80821	492	223.16745	592	268.52668	692	223.88692	792	358.76574	892	404.60439	992	450.96358
93	42.18410	193	87.54333	393	178.26180	493	223.62104	593	268.98028	693	224.34051	793	359.21833	893	405.05798	993	451.41717
94	42.63769	194	87.99692	394	178.71539	494	224.07463	594	269.43387	694	224.79410	794	359.67092	894	405.51158	994	451.87076
95	43.09128	195	88.45051	395	179.16899	495	224.52822	595	269.88746	695	225.24769	795	360.12351	895	405.96517	995	452.32435
96	43.54487	196	88.90410	396	179.62258	496	224.98182	596	270.34105	696	225.70128	796	360.57610	896	406.41876	996	452.77794
97	43.99846	197	89.35770	397	180.07617	497	225.43541	597	270.79464	697	226.15487	797	361.02869	897	406.87235	997	453.23153
98	44.45205	198	89.81129	398	180.52976	498	225.88900	598	271.24824	698	226.60846	798	361.48128	898	407.32594	998	453.68512
99	44.90564	199	90.26488	399	180.98336	499	226.34259	599	271.70183	699	227.06107	799	361.93387	899	407.77953	999	454.13871

9.16. MASS—KILOGRAMS TO AVOIRDUPOIS POUNDS

[Reduction Factor: 1 kilogram = 2.204 622 622 avoirdupois pounds]

Kilos	Pounds	Kilos	Pounds	Kilos	Pounds	Kilos	Pounds	Kilos	Pounds	Kilos	Pounds	Kilos	Pounds	Kilos	Pounds	Kilos	Pounds	Kilos	Pounds	Kilos	Pounds
0	2.2046	100	220.4623	200	440.9245	300	661.3898	400	881.8490	500	1102.3113	600	1322.7736	700	1543.2358	800	1763.6981	900	1984.1604		
1	2.2046	101	222.6669	201	443.1291	301	663.5914	401	884.0537	501	1104.5159	601	1324.9782	701	1545.4405	801	1765.9027	901	1986.3630		
2	4.4092	102	224.8715	202	445.3338	302	665.7960	402	886.2583	502	1106.7282	602	1327.1828	702	1547.6437	802	1768.1073	902	1988.5206		
3	6.6139	103	227.0761	203	447.5384	303	668.0007	403	888.4629	503	1108.9326	603	1329.3874	703	1549.8491	803	1770.3120	903	1990.7742		
4	8.8185	104	229.2808	204	449.7430	304	670.2053	404	890.6675	504	1111.1298	604	1331.5921	704	1551.6546	804	1772.5166	904	1992.8839		
5	11.0231	105	231.4854	205	451.9476	305	672.4099	405	892.8722	505	1113.3344	605	1333.7967	705	1553.2589	805	1774.7212	905	1995.1885		
6	13.2277	106	233.6900	206	454.1523	306	674.6145	406	895.0768	506	1115.5390	606	1336.0013	706	1555.4636	806	1776.9258	906	1997.3881		
7	15.4324	107	235.8946	207	456.3569	307	676.8191	407	897.2814	507	1117.7437	607	1338.2059	707	1557.6682	807	1779.1305	907	1999.5927		
8	17.6370	108	238.0992	208	458.5615	308	679.0238	408	899.4860	508	1119.9483	608	1340.4106	708	1559.8728	808	1781.3351	908	2001.7973		
9	19.8416	109	240.3039	209	460.7661	309	681.2284	409	901.6907	509	1122.1529	609	1342.6152	709	1562.0774	809	1783.5397	909	2004.0020		
10	22.0462	110	242.5085	210	462.9708	310	683.4330	410	903.8953	510	1124.3575	610	1344.8198	710	1564.2821	810	1785.7443	910	2006.2066		
11	24.2508	111	244.7131	211	465.1754	311	685.6376	411	906.0999	511	1126.5622	611	1347.0244	711	1566.4867	811	1787.9489	911	2008.4112		
12	26.4555	112	246.9177	212	467.3800	312	687.8423	412	908.3045	512	1128.7668	612	1349.2290	712	1568.6913	812	1790.1536	912	2010.6158		
13	28.6601	113	249.1224	213	469.5846	313	690.0469	413	910.5091	513	1130.9714	613	1351.4337	713	1570.8958	813	1792.3582	913	2012.8205		
14	30.8647	114	251.3270	214	471.7892	314	692.2515	414	912.7138	514	1133.1760	614	1353.6383	714	1573.1006	814	1794.5628	914	2015.0251		
15	33.0693	115	253.5316	215	473.9939	315	694.4561	415	914.9184	515	1135.3807	615	1355.8429	715	1575.3052	815	1796.7674	915	2017.2297		
16	35.2740	116	255.7362	216	476.1985	316	696.6607	416	917.1230	516	1137.5853	616	1358.0475	716	1577.5098	816	1798.9721	916	2019.4343		
17	37.4786	117	257.9408	217	478.4031	317	698.8654	417	919.3276	517	1139.7899	617	1360.2522	717	1580.7144	817	1801.1767	917	2021.6389		
18	39.6832	118	260.1455	218	480.6077	318	701.0700	418	921.5323	518	1141.9945	618	1362.4568	718	1582.9190	818	1803.3813	918	2023.8436		
19	41.8878	119	262.3501	219	482.8124	319	703.2746	419	923.7369	519	1144.1991	619	1364.6614	719	1585.1237	819	1805.5859	919	2026.0482		
20	44.0925	120	264.5547	220	485.0170	320	705.4792	420	925.9415	520	1146.4038	620	1366.8660	720	1587.3283	820	1807.7906	920	2028.2528		
21	46.2971	121	266.7593	221	487.2216	321	707.6839	421	928.1461	521	1148.6084	621	1369.0706	721	1589.5329	821	1809.9952	921	2030.4574		
22	48.5017	122	268.9640	222	489.4262	322	709.8885	422	930.3507	522	1150.8130	622	1371.2753	722	1591.7375	822	1812.1998	922	2032.6621		
23	50.7063	123	271.1686	223	491.6308	323	712.0931	423	932.5554	523	1153.0176	623	1373.4799	723	1593.9422	823	1814.4044	923	2034.8667		
24	52.9109	124	273.3732	224	493.8355	324	714.2977	424	934.7600	524	1155.2223	624	1375.6845	724	1596.1468	824	1816.6090	924	2037.0713		
25	55.1156	125	275.5778	225	496.0401	325	716.5024	425	936.9646	525	1157.4269	625	1377.8891	725	1598.3514	825	1818.8137	925	2039.2759		
26	57.3202	126	277.7825	226	498.2447	326	718.7070	426	939.1692	526	1159.6315	626	1380.0938	726	1600.5560	826	1821.0183	926	2041.4807		
27	59.5248	127	279.9871	227	500.4493	327	720.9116	427	941.3739	527	1161.8361	627	1382.2984	727	1602.7606	827	1823.2229	927	2043.6852		
28	61.7294	128	282.1917	228	502.6540	328	723.1162	428	943.5785	528	1164.0407	628	1384.5030	728	1604.9653	828	1825.4275	928	2045.8898		
29	63.9341	129	284.3963	229	504.8586	329	725.3208	429	945.7831	529	1166.2454	629	1386.7076	729	1607.1699	829	1827.6322	929	2048.0944		
30	66.1387	130	286.6009	230	507.0632	330	727.5255	430	947.9877	530	1168.4500	630	1388.9123	730	1609.3745	830	1829.8368	930	2050.2990		
31	68.3433	131	288.8056	231	509.2678	331	729.7301	431	950.1924	531	1170.6546	631	1391.1169	731	1611.5791	831	1832.0414	931	2052.5037		
32	70.5479	132	291.0102	232	511.4724	332	731.9347	432	952.3970	532	1172.8592	632	1393.3215	732	1613.7838	832	1834.2460	932	2054.7083		
33	72.7525	133	293.2148	233	513.6771	333	734.1393	433	954.6016	533	1175.0639	633	1395.5261	733	1615.9884	833	1836.4506	933	2056.9129		
34	74.9572	134	295.4194	234	515.8817	334	736.3440	434	956.8062	534	1177.2685	634	1397.7307	734	1618.1930	834	1838.6553	934	2059.1175		
35	77.1618	135	297.6241	235	518.0863	335	738.5486	435	959.0108	535	1179.4731	635	1399.9354	735	1620.3976	835	1840.8600	935	2061.3222		
36	79.3664	136	299.8287	236	520.2909	336	740.7532	436	961.2155	536	1181.6777	636	1402.1400	736	1622.6022	836	1843.0645	936	2063.5268		
37	81.5710	137	302.0333	237	522.4956	337	742.9578	437	963.4201	537	1183.8823	637	1404.3446	737	1624.8069	837	1845.2690	937	2065.7314		
38	83.7757	138	304.2379	238	524.7002	338	745.1624	438	965.6247	538	1186.0870	638	1406.5492	738	1627.0115	838	1847.4738	938	2067.9360		
39	85.9803	139	306.4425	239	526.9048	339	747.3671	439	967.8293	539	1188.2916	639	1408.7539	739	1629.2161	839	1849.6784	939	2070.1406		
40	88.1849	140	308.6472	240	529.1094	340	749.5717	440	970.0340	540	1190.4962	640	1410.9585	740	1631.4207	840	1851.8830	940	2072.3453		
41	90.3895	141	310.8518	241	531.3141	341	751.7763	441	972.2386	541	1192.7008	641	1413.1631	741	1633.6254	841	1854.0876	941	2074.5499		
42	92.5942	142	313.0564	242	533.5187	342	753.9809	442	974.4432	542	1194.9055	642	1415.3677	742	1635.8306	842	1856.2922	942	2076.7545		
43	94.7988	143	315.2610	243	535.7233	343	756.1856	443	976.6478	543	1197.1101	643	1417.5723	743	1638.0346	843	1858.4969	943	2078.9591		
44	97.0034	144	317.4657	244	537.9279	344	758.3902	444	978.8524	544	1199.3147	644	1419.7770	744	1640.2392	844	1860.7015	944	2081.1638		
45	99.2080	145	319.6703	245	540.1325	345	760.5948	445	981.0571	545	1201.5193	645	1421.9816	745	1642.4439	845	1862.9061	945	2083.3684		
46	101.4126	146	321.8749	246	542.3372	346	762.7994	446	983.2617	546	1203.7240	646	1424.1862	746	1644.6485	846	1865.1107	946	2085.5730		
47	103.6173	147	324.0795	247	544.5418	347	765.0040	447	985.4663	547	1205.9286	647	1426.3908	747	1646.8531	847	1867.3154	947	2087.7776		
48	105.8219	148	326.2841	248	546.7464	348	767.2087	448	987.6709	548	1208.1332	648	1428.5955	748	1649.0577	848	1869.5200	948	2089.9822		
49	108.0265	149	328.4888	249	548.9510	349	769.4133	449	989.8756	549	1210.3378	649	1430.8001	749	1651.2623	849	1871.7246	949	2092.1869		

50	110.2311	330.6934	250	551.1557	350	771.6179	450	992.0802	550	1212.5424	650	1433.0047	750	1653.4070	850	1873.9292	950	2094.3915
51	111.4358	332.8980	251	553.3003	351	773.8225	451	994.2848	551	1214.7471	651	1435.2093	751	1655.6716	851	1876.1339	951	2096.5961
52	112.6406	335.1026	252	555.4456	352	776.0272	452	996.4894	552	1216.9517	652	1437.4136	752	1657.8762	852	1878.3385	952	2098.8007
53	113.8454	337.3073	253	557.5909	353	778.2318	453	998.6940	553	1219.1563	653	1439.6186	753	1660.0808	853	1880.5431	953	2101.0054
54	115.0501	339.5120	254	559.7362	354	780.4364	454	1000.8987	554	1221.3609	654	1441.8232	754	1662.2855	854	1882.7477	954	2103.2100
55	116.2548	341.7167	255	561.8815	355	782.6410	455	1003.1033	555	1223.5656	655	1444.0278	755	1664.4901	855	1884.9523	955	2105.4146
56	117.4595	343.9214	256	564.0268	356	784.8457	456	1005.3079	556	1225.7702	656	1446.2324	756	1666.6947	856	1887.1570	956	2107.6192
57	118.6642	346.1261	257	566.1721	357	787.0503	457	1007.5125	557	1227.9748	657	1448.4371	757	1668.8993	857	1889.3616	957	2109.8238
58	119.8689	348.3308	258	568.3174	358	789.2549	458	1009.7172	558	1230.1794	658	1450.6417	758	1671.1039	858	1891.5662	958	2112.0285
59	121.0737	350.5350	259	570.4626	359	791.4595	459	1011.9218	559	1232.3840	659	1452.8463	759	1673.3086	859	1893.7708	959	2114.2331
60	122.2784	352.7396	260	572.6079	360	793.6641	460	1014.1264	560	1234.5887	660	1455.0509	760	1675.5132	860	1895.9755	960	2116.4377
61	123.4830	354.9442	261	574.7532	361	795.8688	461	1016.3310	561	1236.7933	661	1457.2556	761	1677.7178	861	1898.1801	961	2118.6423
62	124.6876	357.1489	262	576.8985	362	798.0734	462	1018.5357	562	1238.9979	662	1459.4602	762	1679.9224	862	1900.3847	962	2120.8470
63	125.8922	359.3535	263	579.0437	363	800.2780	463	1020.7403	563	1241.2025	663	1461.6648	763	1682.1271	863	1902.5893	963	2123.0516
64	127.0968	361.5581	264	581.1890	364	802.4826	464	1022.9449	564	1243.4072	664	1463.8694	764	1684.3317	864	1904.7939	964	2125.2562
65	128.3014	363.7627	265	583.3341	365	804.6873	465	1025.1495	565	1245.6118	665	1466.0740	765	1686.5363	865	1906.9986	965	2127.4608
66	129.5060	365.9674	266	585.4856	366	806.8919	466	1027.3541	566	1247.8164	666	1468.2787	766	1688.7409	866	1909.2032	966	2129.6655
67	130.7106	368.1720	267	587.6349	367	809.0965	467	1029.5588	567	1250.0210	667	1470.4833	767	1690.9456	867	1911.4078	967	2131.8701
68	131.9152	370.3766	268	589.7842	368	811.3011	468	1031.7634	568	1252.2256	668	1472.6879	768	1693.1502	868	1913.6124	968	2134.0747
69	133.1198	372.5812	269	591.9335	369	813.5057	469	1033.9680	569	1254.4303	669	1474.8925	769	1695.3548	869	1915.8171	969	2136.2793
70	134.3244	374.7858	270	594.0828	370	815.7104	470	1036.1726	570	1256.6349	670	1477.0972	770	1697.5594	870	1918.0217	970	2138.4839
71	135.5290	376.9905	271	596.2319	371	817.9150	471	1038.3773	571	1258.8395	671	1479.3018	771	1699.7640	871	1920.2263	971	2140.6886
72	136.7336	379.1951	272	598.3810	372	820.1196	472	1040.5819	572	1261.0441	672	1481.5064	772	1701.9687	872	1922.4309	972	2142.8932
73	137.9382	381.4000	273	600.5301	373	822.3242	473	1042.7865	573	1263.2488	673	1483.7110	773	1704.1733	873	1924.6355	973	2145.0978
74	139.1428	383.6046	274	602.6792	374	824.5289	474	1044.9911	574	1265.4534	674	1485.9156	774	1706.3779	874	1926.8402	974	2147.3024
75	140.3474	385.8092	275	604.8283	375	826.7335	475	1047.1957	575	1267.6580	675	1488.1203	775	1708.5825	875	1929.0448	975	2149.5071
76	141.5520	388.0138	276	606.9774	376	828.9381	476	1049.4004	576	1269.8626	676	1490.3249	776	1710.7872	876	1931.2491	976	2151.7117
77	142.7566	390.2182	277	609.1265	377	831.1427	477	1051.6050	577	1272.0673	677	1492.5295	777	1712.9918	877	1933.4540	977	2153.9163
78	143.9612	392.4228	278	611.2756	378	833.3474	478	1053.8096	578	1274.2719	678	1494.7341	778	1715.1964	878	1935.6587	978	2156.1209
79	145.1658	394.6274	279	613.4247	379	835.5520	479	1056.0142	579	1276.4765	679	1496.9388	779	1717.4010	879	1937.8633	979	2158.3255
80	146.3704	396.8321	280	615.5738	380	837.7566	480	1058.2189	580	1278.6811	680	1499.1434	780	1719.6056	880	1940.0679	980	2160.5302
81	147.5750	399.0367	281	617.7230	381	839.9612	481	1060.4235	581	1280.8857	681	1501.3480	781	1721.8103	881	1942.2725	981	2162.7348
82	148.7796	401.2413	282	619.8722	382	842.1658	482	1062.6281	582	1283.0904	682	1503.5526	782	1724.0149	882	1944.4772	982	2164.9394
83	149.9842	403.4459	283	621.9829	383	844.3705	483	1064.8327	583	1285.2950	683	1505.7573	783	1726.2195	883	1946.6818	983	2167.1440
84	151.1888	405.6506	284	624.1098	384	846.5751	484	1067.0373	584	1287.4996	684	1507.9619	784	1728.4241	884	1948.8864	984	2169.3487
85	152.3934	407.8552	285	626.2367	385	848.7797	485	1069.2420	585	1289.7042	685	1510.1665	785	1730.6288	885	1951.0910	985	2171.5533
86	153.5980	409.0600	286	628.3636	386	850.9843	486	1071.4466	586	1291.9089	686	1512.3711	786	1732.8334	886	1953.2956	986	2173.7579
87	154.8026	411.2644	287	630.4905	387	853.1890	487	1073.6512	587	1294.1135	687	1514.5757	787	1735.0380	887	1955.5003	987	2175.9625
88	156.0072	413.4687	288	632.6176	388	855.3936	488	1075.8558	588	1296.3181	688	1516.7804	788	1737.2426	888	1957.7049	988	2178.1672
89	157.2118	415.6733	289	634.7447	389	857.5982	489	1078.0605	589	1298.5227	689	1518.9850	789	1739.4472	889	1959.9095	989	2180.3718
90	158.4164	417.8779	290	636.8708	390	859.8028	490	1080.2651	590	1300.7273	690	1521.1896	790	1741.6519	890	1962.1141	990	2182.5764
91	159.6210	420.0825	291	638.9969	391	862.0074	491	1082.4697	591	1302.9320	691	1523.3942	791	1743.8565	891	1964.3188	991	2184.7810
92	160.8256	422.2871	292	641.1229	392	864.2121	492	1084.6743	592	1305.1366	692	1525.5989	792	1746.0611	892	1966.5234	992	2186.9856
93	162.0302	424.4917	293	643.2489	393	866.4167	493	1086.8789	593	1307.3412	693	1527.8035	793	1748.2657	893	1968.7280	993	2189.1903
94	163.2348	426.6963	294	645.3750	394	868.6213	494	1089.0835	594	1309.5458	694	1530.0081	794	1750.4704	894	1970.9326	994	2191.3949
95	164.4394	428.9009	295	647.5011	395	870.8259	495	1091.2882	595	1311.7505	695	1532.2127	795	1752.6750	895	1973.1372	995	2193.5995
96	165.6440	431.1055	296	649.6272	396	873.0305	496	1093.4928	596	1313.9551	696	1534.4173	796	1754.8796	896	1975.3419	996	2195.8041
97	166.8486	433.3101	297	651.7523	397	875.2351	497	1095.6969	597	1316.1597	697	1536.6220	797	1757.0842	897	1977.5465	997	2198.0088
98	168.0532	435.5147	298	653.8774	398	877.4398	498	1097.9014	598	1318.3643	698	1538.8266	798	1759.2889	898	1979.7511	998	2200.2134
99	169.2578	437.7193	299	656.0025	399	879.6444	499	1100.1067	599	1320.5690	699	1541.0312	799	1761.4935	899	1981.9557	999	2202.4180

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