

Symbols & Tables

U. S. CUSTOMARY MEASURE

2 cups = 1 pint (pt)
 2 pints = 1 quart (qt)
 4 quarts = 1 gallon (gal)
 8 pints = 1 gallon
 12 inches (in) = 1 foot (ft)
 3 feet = 1 yard (yd)
 5,280 feet = 1 mile (mi)
 16 ounces (oz) = 1 pound (lb)
 1 ton = 2,000 pounds

 1 acre of land = 43,560 ft²
 1 cord of wood = 4' × 4' × 8' = 128 ft³
 1 yard of carpet = 3' × 3' = 1 yd²
 1 yard of concrete = 3' × 3' × 3' = 1 yd³

U. S. CUSTOMARY TO METRIC

1 inch ≈ 2.5 centimeters
 1 yard ≈ .9 meter
 1 mile ≈ 1.6 kilometers
 1 ounce ≈ 28 grams
 1 pound ≈ .45 kilogram
 1 quart ≈ .95 liter

METRIC TO U. S. CUSTOMARY

1 centimeter ≈ .4 inch
 1 meter ≈ 1.1 yards
 1 kilometer ≈ .62 mile
 1 gram ≈ .035 ounce
 1 kilogram ≈ 2.2 pounds
 1 liter ≈ 1.06 quarts

SYMBOLS

< less than
 > greater than
 ≤ less than or equal to
 ≥ greater than or equal to
 = equal in numerical value
 ≠ not equal
 ≈ approximately equal
 √ square root (radical sign)
 % percent
 ⊥ perpendicular
 ∥ parallel
 1' 1 foot
 1" 1 inch
 |X| = X absolute value of X equals X
 |-X| = X absolute value of -X equals X

FORMULAS

Standard Form of Equations

line $AX + BY = C$
 circle $AX^2 + AY^2 = R^2$
 ellipse $AX^2 + BY^2 = C$
 parabola $Y = X^2$
 hyperbola $XY = C$

Slope-Intercept Form of the Equation of a Line

$Y = mX + b$
 where m = slope
 b = Y-intercept

Slope of a line = $\frac{\text{up}}{\text{over}} = \frac{\text{rise}}{\text{run}} = \frac{Y_2 - Y_1}{X_2 - X_1}$

PROPERTIES

Associative Property

$$(X + B) + C = A + (B + C)$$

$$(A \times B) \times C = A \times (B \times C)$$

Commutative Property

$$A + B = B + A$$

$$A \times B = B \times A$$

Distributive Property

$$A(B + C) = AB + AC$$

MISCELLANEOUS

Exponents

$$X^a \cdot X^b = X^{a+b}$$

$$X^a \div X^b = X^{a-b}$$

$$X^{-a} = \frac{1}{X^a}$$

$$(X^a)^b = X^{ab}$$

$$X^{\frac{1}{a}} = \sqrt[a]{X}$$

Order of Operations

Parachute Expert My Dear Aunt Sally

- 1) parentheses
- 2) exponents
- 3) multiplication and division
- 4) addition and subtraction

Rules for Divisibility

Number is divisible by

- 2 if it ends in even number
- 3 if digits add to multiple of 3
- 9 if digits add to multiple of 9
- 5 if it ends in 5 or 0

METRIC MEASURES

1,000 millimeters (mm) - 1 meter (m)

100 centimeters (cm) - 1 meter

10 decimeters (dm) - 1 meter

10 meters = 1 dekameter (dam or dkm)

100 meters = 1 hectometer (hm)

1,000 meters = 1 kilometer (km)

1,000 milligrams (mg) - 1 gram (g)

100 centigrams (cg) - 1 gram

10 decigrams (dg) - 1 gram

10 grams = 1 dekagram (dag or dkg)

100 grams = 1 hectogram (hg)

1,000 grams = 1 kilogram (kg)

1,000 milliliters (ml) - 1 liter (l or L)

100 centiliters (cl) - 1 liter

10 deciliters (dl) - 1 liter

10 liters = 1 dekaliter (dal or dkl)

100 liters = 1 hectoliter (hl)

1,000 liters = 1 kiloliter (kl)