

Symbols & Tables

SYMBOLS

<	less than
>	greater than
≤	less than or equal to
≥	greater than or equal to
=	equal in numerical value
≠	not equal to
≈	approximately equal
%	percent
	absolute value
√	square root
Δ	change in

FACTORING

$$(A + B)^2 = A^2 + 2AB + B^2$$

$$(A - B)^2 = A^2 - 2AB + B^2$$

$$(A + B)^3 = A^3 + 3A^2B + 3AB^2 + B^3$$

$$(A - B)^3 = A^3 - 3A^2B + 3AB^2 - B^3$$

QUADRATIC FORMULA

$$X = \frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$$

MIDPOINT FORMULA

$$\left(\frac{X_1 + X_2}{2}, \frac{Y_1 + Y_2}{2} \right)$$

PYTHAGOREAN THEOREM

$$L^2 + L^2 = H^2$$

DISTANCE FORMULA

$$D^2 = \Delta X^2 + \Delta Y^2 \text{ or } D = \sqrt{\Delta X^2 + \Delta Y^2}$$

IMPERIAL TO METRIC

1 inch	≈ 2.5 centimeters
1 yard (36")	≈ .9 meters
1 mile	≈ 1.6 kilometers
1 ounce	≈ 28 grams
1 pound	≈ .45 kilograms
1 quart	≈ .95 liters

METRIC TO IMPERIAL

1 centimeter	≈ .4 inches
1 meter (39.37")	≈ 1.1 yards
1 kilometer	≈ .62 miles
1 gram	≈ .035 ounces
1 kilogram	≈ 2.2 pounds
1 liter	≈ 1.06 quarts

SLOPE OF A LINE

$$\text{slope} = \frac{\text{up}}{\text{over}} = \frac{Y_2 - Y_1}{X_2 - X_1}$$

DISCRIMINANT

$$b^2 - 4ac$$

AXIS OF SYMMETRY OF A PARABOLA

$$X = \frac{-B}{2A}$$

SLOPE-INTERCEPT FORM

$$Y = mX + b$$

EQUATION OF A:

line	$AX + BY = C$
circle	$AX^2 + AY^2 = C$
ellipse	$AX^2 + BY^2 = C$
parabola	$Y = X^2$
hyperbola	$XY = C \text{ and } X^2 - Y^2 = C$

ORDER OF OPERATIONS

Parachute Expert My Dear Aunt Sally

1. Parentheses
2. Exponents
3. Multiplication and Division
4. Addition and Subtraction

BINOMIAL THEOREM

$$(A - B)^N = A^N B^0 + \frac{N}{1} A^{N-1} B^1 + \frac{N(N-1)}{1(2)} A^{N-2} B^2 + \frac{N(N-1)(N-2)}{1(2)(3)} A^{N-3} B^3 \dots A^0 B^N$$

ATOMIC WEIGHT TABLE

Symbol	Element	Atomic Weight	Symbol	Element	Atomic Weight
H	Hydrogen	1	Mg	Magnesium	24
Li	Lithium	7	Si	Silicon	28
Be	Beryllium	9	P	Phosphorus	31
B	Boron	11	S	Sulfur	32
C	Carbon	12	Cl	Chlorine	35
N	Nitrogen	14	K	Potassium	39
O	Oxygen	16	Ca	Calcium	40
F	Fluorine	19	Cr	Chromium	52
Na	Sodium	23	Fe	Iron	56