



Multiplication Table

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

Periodic Table

I		II										III										IV										V										VI										VII										VIII												
1 H 1-0	2 He 4-0	3 Li 6-9	4 Be 9-0	5 B 10-8	6 C 12-0	7 N 14-0	8 O 16-0	9 F 19-0	10 Ne 20-2	11 Na 23-0	12 Mg 24-3	13 Al 27-0	14 Si 28-1	15 P 31-0	16 S 32-1	17 Cl 35-5	18 Ar 39-9	19 K 39-1	20 Ca 40-1	21 Sc 45-0	22 Ti 47-9	23 V 50-9	24 Cr 52-0	25 Mn 54-9	26 Fe 55-8	27 Co 58-9	28 Ni 58-7	29 Cu 63-5	30 Zn 65-4	31 Ga 69-7	32 Ge 72-6	33 As 74-9	34 Se 79-0	35 Br 79-9	36 Kr 83-8	37 Rb 85-5	38 Sr 87-6	39 Y 88-9	40 Zr 91-2	41 Nb 92-9	42 Mo 95-9	43 Tc (98)	44 Ru 101-1	45 Rh 101-1	46 Pd 106-4	47 Ag 107-9	48 Cd 112-4	49 In 114-8	50 Sn 118-7	51 Sb 121-8	52 Te 127-6	53 I 126-9	54 Xe 131-3	55 Cs 132-9	56 Ba 137-3	57 *La 138-9	72 Hf 178-5	73 Ta 180-9	74 W 183-8	75 Re 186-2	76 Os 190-2	77 Ir 192-2	78 Pt 195-1	79 Au 197-0	80 Hg 200-6	81 Tl 204-4	82 Pb 207-2	83 Bi 209-0	84 Po (209)	85 At (210)	86 Rn (222)	87 Fr (223)	88 Ra (226)	89 *Ac (227-0)

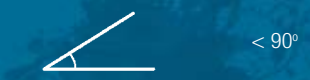
*Lanthanide Series	58 Ce 140-1	59 Pr 140-9	60 Nd 144-2	61 Pm (145)	62 Sm 150-4	63 Eu 152-0	64 Gd 157-2	65 Tb 158-9	66 Dy 162-5	67 Ho 164-9	68 Er 167-3	69 Tm 168-9	70 Yb 173-0	71 Lu 175-0
‡Actinide Series	90 Th 232-0	91 Pa 231-0	92 U 238-0	93 Np 237-0	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)

6
C
12-0

← Atomic number
— Symbol
↔ Relative atomic mass (atomic weight)

A relative atomic mass in brackets is the mass number of the isotope with the longest half-life

An acute angle is one which is less < than 90°



An obtuse angle is one which is more > than 90° but less < than 180°



A reflex angle is one which is more > than 180° but less < than 360°

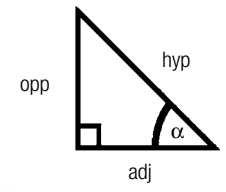


Trig Ratios

Sin α = opp/hyp

Cos α = adj/hyp

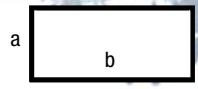
Tan α = opp/adj



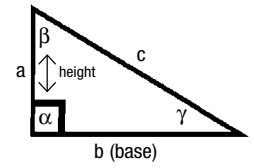
The general equation of a straight line is given in the form $y = mx + c$
 $m =$ gradient $c =$ y intercept

Binomial Product: $(x+a)(y+b) = xy + xb + ay + ab$

Area of a rectangle = $a \times b$
 Perimeter = $2(a + b)$

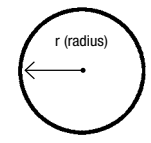


Area of a triangle = $1/2$ base \times height



Pythagorean Theorem: $a^2 + b^2 = c^2$

$\alpha + \beta + \gamma = 180^\circ$

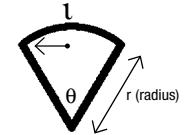


Area of a Circle = πr^2

Circumference = $2\pi r$

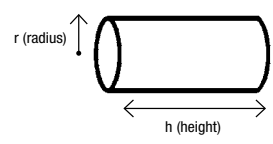
$\pi = 3.141592654$

Arc Length (l) = $\theta/360^\circ \times 2\pi r$



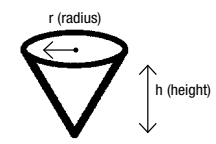
Volume of a Sphere = $(\pi \times r^3) 4/3$

Surface Area = $4\pi r^2$



Volume of a Cylinder = $\pi r^2 h$

Surface Area = $2\pi r^2 + 2\pi r h$



Volume of a cone = $(\pi \times r^2 \times h) / 3$