Universal constants:

Avogadro constant	N_A	=	6.022×10^{23} mol^{-1}		
Boltzmann constant	k_B	=	1.381×10^{-23} J K^{-1}		
Charge of electron	e	=	1.602×10^{-19} C		
Planck constant	h	=	6.626×10^{-34} J s		
Speed of light in vacuum	c	=	2.998×10^{8} m s^{-1}		
Universal gravitational constant	G	=	6.674×10^{-11} N m^2 kg^{-2}		
Universal gas constant	R	=	8.315 J mol^{-1} K^{-1}		
Stefan-Boltzmann constant	σ	=	5.670×10^{-8} W m^{-2} K^{-4}		
Wien's displacement constant	b	=	2.898×10^{-3} m K		
Permittivity of free space	ϵ_0	=	8.854×10^{-12} m^{-3} kg^{-1} s^4 A^2		
Permeability of free space	μ_0	=	1.257×10^{-6} N A^{-2}		
Mass of electron	m_e	=	9.109×10^{-31} kg	=	0.511 MeV/c^2
Mass of proton	m_p	=	1.673×10^{-27} kg	=	938.272 MeV/c^2
Mass of neutron	m_n	=	1.675×10^{-27} kg	=	939.565 MeV/c^2
Mass of deuteron	m_D	=	3.344×10^{-27} kg	=	1875.613 MeV/c^2
Mass of He nucleus	m_{He}	=	6.645×10^{-27} kg	=	3727.181 MeV/c^2

Astronomical data:

Mass of Sun	$M_\odot$	=	1.988×10^{30} kg		
Radius of Sun	$R_\odot$	=	6.957×10^{8} m		
Luminosity of Sun	$L_\odot$	=	3.828×10^{26} W		
Effective temperature of Sun	$T_{\text{eff},\odot}$	=	5772 K		
Apparent magnitude of Sun (in V-band)	$m_{V,\odot}$	=	-26.74		
Absolute magnitude of Sun (in V-band)	$M_{V,\odot}$	=	$+4.82$		
Apparent bolometric magnitude of Sun	$m_{bol,\odot}$	=	-26.83		
Absolute bolometric magnitude of Sun	$M_{bol,\odot}$	=	$+4.74$		
Solar constant (above atmosphere of Earth)	$S_\odot$	=	1361 W m^{-2}		
Apparent angular diameter of Sun (from Earth)	$\theta_\odot$	$\approx$	$32'$		
Mass of Earth	$M_\oplus$	=	5.972×10^{24} kg		
Radius of Earth	$R_\oplus$	=	6.378×10^{6} m		
Axial tilt of Earth	ϵ	=	$23°26'$		
Inclination of the lunar orbit w.r.t. the ecliptic		=	$5°8'43''$		
Mass of Jupiter	M_J	=	1.898×10^{27} kg		
Radius of Jupiter	R_J	=	6.991×10^{7} m		
1 Astronomical Unit	1 au	=	1.496×10^{11} m		
1 parsec	1 pc	=	3.086×10^{16} m		
1 light-year	1 ly	=	9.461×10^{15} m		
1 jansky	1 Jy	=	10^{-26} W m^{-2} Hz^{-1}		
1 tropical year		=	365.2422 solar days	=	3.156×10^{7} s
		=	365 d 5 h 48 min 46 s		
1 sidereal year		=	365.2564 solar days	=	3.156×10^{7} s
		=	365 d 6 h 9 min 13 s		
Rate of precession of Vernal Equinox		=	1° per 71.6 years		

Calculus related formulas:

1. $\frac{dy}{dx} = \frac{dy}{du}\frac{du}{dx}$ 2. $\frac{d}{dx}x^n = nx^{n-1}$ 3. $\frac{d}{dx}\sin kx = k\cos kx$ 4. $\frac{d}{dx}\cos kx = -k\sin kx$ 5. $\frac{d}{dx}\tan kx = k\sec^2 kx$

6. $\int x^n\,dx = \frac{x^{n+1}}{n+1} + \text{constant; for } n \neq -1$ 7. $f(x) \simeq f(x_0) + \left.\frac{df}{dx}\right|_{x=x_0}(x - x_0)$, for $x \approx x_0$