List of constants

Fundamental physics constants

speed of light in vacuum	c	$2.998 \cdot 10^{8}\,\mathrm{m{\cdot}s^{-1}}$
permittivity of free space	ε_0	$8.854 \cdot 10^{-12}\,\mathrm{F{\cdot}m^{-1}}$
permeability of free space	μ_0	$1.257 \cdot 10^{-6}\,\mathrm{H{\cdot}m^{-1}}$
gravitational constant	G	$6.674 \cdot 10^{-11}\,\mathrm{m^3{\cdot}kg^{-1}{\cdot}s^{-2}}$
Planck constant	h	$6.626 \cdot 10^{-34}\,\mathrm{J{\cdot}s}$
elementary charge	e	$1.602 \cdot 10^{-19}\,\mathrm{C}$
electron mass	m_e	$9.109 \cdot 10^{-31}\,\mathrm{kg}$
proton mass	m_p	$1.673 \cdot 10^{-27}\,\mathrm{kg}$
atomic mass unit	u	$1.661 \cdot 10^{-27}\,\mathrm{kg}$
Avogadro constant	N_A	$6.022 \cdot 10^{23}\,\mathrm{mol^{-1}}$
Boltzmann constant	k_B	$1.381 \cdot 10^{-23}\,\mathrm{J{\cdot}K^{-1}}$
molar gas constant	R_m	$8.314\,\mathrm{J{\cdot}mol^{-1}{\cdot}K^{-1}}$
Stefan-Boltzmann constant	σ	$5.670 \cdot 10^{-8}\,\mathrm{W{\cdot}m^{-2}{\cdot}K^{-4}}$

Astronomical constants

mass of Earth	$M_\oplus$	$5.974 \cdot 10^{24}\,\mathrm{kg}$
mass of Sun	$M_\odot$	$1.989 \cdot 10^{30}\,\mathrm{kg}$
equatorial radius of Earth	$R_\oplus$	$6.378 \cdot 10^{6}\,\mathrm{m}$
equatorial radius of Sun	$R_\odot$	$6.957 \cdot 10^{8}\,\mathrm{m}$
nominal solar luminosity	$L_\odot$	$3.828 \cdot 10^{26}\,\mathrm{W}$
astronomical unit	au	$149.6 \cdot 10^{9}\,\mathrm{m}$

Other useful constants

gravity of Earth	g	$9.81\,\mathrm{m{\cdot}s^{-2}}$
speed of sound in air	c	$343\,\mathrm{m{\cdot}s^{-1}}$
normal pressure	p_a	$101.325\,\mathrm{kPa}$
normal temperature	t	$20\,℃$
Zero-point of Celsius scale	$0\,℃$	$273.15\,\mathrm{K}$

Properties of water under normal conditions

specific latent heat of vaporisation	l_v	$2.26 \cdot 10^{6}\,\mathrm{J{\cdot}kg^{-1}}$
specific latent heat of fusion	l_t	$3.34 \cdot 10^{5}\,\mathrm{J{\cdot}kg^{-1}}$
heat capacity	c	$4\,184\,\mathrm{J{\cdot}kg^{-1}{\cdot}K^{-1}}$
molar mass	$M_{\mathrm{H_2O}}$	$18.02\,\mathrm{g{\cdot}mol^{-1}}$
index of refraction	n	1.333
density	ρ	$998\,\mathrm{kg{\cdot}m^{-3}}$
dynamic viscosity	μ	$1.005 \cdot 10^{-3}\,\mathrm{Pa{\cdot}s}$
surface tension	σ	$7.27 \cdot 10^{-2}\,\mathrm{N{\cdot}m^{-1}}$