

# Constants

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Name	Variable	Value
Speed of light in a vacuum	$c$	299 792 458
Planck's constant	$h$	$6.626\,070\,15 \cdot 10^{-34}$
Planck's constant	$h$	$4.135\,667\,87 \cdot 10^{-15}$
Planck's constant	$\hbar$	$1.054\,573 \cdot 10^{-34}$
Planck's constant	$\hbar$	$0.658\,212 \cdot 10^{-15}$
The Elemental Charge	$e$	$1.602\,176\,634 \cdot 10^{-19}$
Bohr Radius	$a_0$	$5.291\,772\,109\,03 \cdot 10^{-11}$
Electron Mass	$m_e$	$9.109\,383\,7015 \cdot 10^{-31}$
Electron Mass	$m_e$	0.510 998 954
Proton Mass	$m_p$	$1.672\,621\,923\,69 \cdot 10^{-27}$
Proton Mass	$m_p$	938.272 096
Proton Mass	$m_p$	1836.152 673 43
Neutron Mass	$m_n$	$1.674\,927\,498\,04 \cdot 10^{-27}$
Neutron Mass	$m_n$	939.565 428
Neutron Mass	$m_n$	1838.683 661 73
Boltzmanns Constant	$k$	$1.380\,649 \cdot 10^{-23}$
Boltzmanns Constant	$k$	$8.617\,333\,6333 \cdot 10^{-5}$
Avogadros Constant	$N_A$	$6.022\,140\,76 \cdot 10^{23}$
Rydbergs Constant	$R_y$	$\frac{\hbar^2}{2ma_0^2}$
Rydbergs Constant	$R_y$	13.6057
Rydbergs Constant	$R_y$	109 737.32
The General Gas Constant	$R$	8.314 462 618
The Fine Structure Constant	$\alpha$	$\frac{e^2}{4\pi\epsilon_0\hbar c} = \frac{1}{137.036}$
Dielectric Constant for Vacuum	$\epsilon_0$	$0.885\,419 \cdot 10^{-11}$
Permeability of Vacuum	$\mu_0$	$1.256\,637\,062\,12 \cdot 10^{-6}$
Permeability of Vacuum	$\mu_0$	$4\pi \cdot 10^{-7}$
The Bohr Magneton	$\mu_B$	$\frac{e\hbar}{2m} = 9.274\,010\,0783 \cdot 10^{-24}$