



Reference Tables for Physical Setting/PHYSICS

2006 Edition

List of Physical Constants

Name	Symbol	Value
Universal gravitational constant	G	$6.67 \times 10^{-11} \text{ N}\cdot\text{m}^2/\text{kg}^2$
Acceleration due to gravity	g	9.81 m/s^2
Speed of light in a vacuum	c	$3.00 \times 10^8 \text{ m/s}$
Speed of sound in air at STP		$3.31 \times 10^2 \text{ m/s}$
Mass of Earth		$5.98 \times 10^{24} \text{ kg}$
Mass of the Moon		$7.35 \times 10^{22} \text{ kg}$
Mean radius of Earth		$6.37 \times 10^6 \text{ m}$
Mean radius of the Moon		$1.74 \times 10^6 \text{ m}$
Mean distance—Earth to the Moon		$3.84 \times 10^8 \text{ m}$
Mean distance—Earth to the Sun		$1.50 \times 10^{11} \text{ m}$
Electrostatic constant	k	$8.99 \times 10^9 \text{ N}\cdot\text{m}^2/\text{C}^2$
1 elementary charge	e	$1.60 \times 10^{-19} \text{ C}$
1 coulomb (C)		$6.25 \times 10^{18} \text{ elementary charges}$
1 electronvolt (eV)		$1.60 \times 10^{-19} \text{ J}$
Planck's constant	h	$6.63 \times 10^{-34} \text{ J}\cdot\text{s}$
1 universal mass unit (u)		$9.31 \times 10^2 \text{ MeV}$
Rest mass of the electron	m_e	$9.11 \times 10^{-31} \text{ kg}$
Rest mass of the proton	m_p	$1.67 \times 10^{-27} \text{ kg}$
Rest mass of the neutron	m_n	$1.67 \times 10^{-27} \text{ kg}$

Prefixes for Powers of 10

Prefix	Symbol	Notation
tera	T	10^{12}
giga	G	10^9
mega	M	10^6
kilo	k	10^3
deci	d	10^{-1}
centi	c	10^{-2}
milli	m	10^{-3}
micro	μ	10^{-6}
nano	n	10^{-9}
pico	p	10^{-12}

Approximate Coefficients of Friction

	Kinetic	Static
Rubber on concrete (dry)	0.68	0.90
Rubber on concrete (wet)	0.58	
Rubber on asphalt (dry)	0.67	0.85
Rubber on asphalt (wet)	0.53	
Rubber on ice	0.15	
Waxed ski on snow	0.05	0.14
Wood on wood	0.30	0.42
Steel on steel	0.57	0.74
Copper on steel	0.36	0.53
Teflon on Teflon	0.04	

