

value	1	2	e	3, $\pi$	4	5	6	8	10
$\log_{10}(\text{value})$	0	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
$\log_{10}(\text{cgs})$	Name	[M]	[L]	[T]	definition				
-27	$M_e$	1	0	0	Electron mass				
-27	$\hbar$	1	2	-1	$\hbar/(2\pi)$				
-26.2	$h$	1	2	-1	Planck's const				
-23.8	$M_p$	1	0	0	Proton mass				
-15.9	$k_B$	1	2	-2	Boltzmann's const				
-14.1	$a$	1	-1	-2	Radiation constant				
-13.0	$r_{\text{nuc}}$	0	1	9	Nucleon radius				
-12.5	$r_e$	0	1	0	classical $e$ radius				
-11.8	eV	1	2	-2	electron volt				
-10.7	Rydberg	1	2	-2	binding egy of H				
-10.4	$\lambda_C$	0	1	0	Compton wavelength				
-9.3	e	1/2	3/2	-1	$e^-$ charge				
-8.3	$a_0$	0	1	0	Bohr's $H$ radius				
-7.2	G	-1	3	-2	Newton's constant				
-5.3	arcsec	0	0	0					
-4.6	$\sqrt{\hbar c/G}$	1	0	0	Planck mass				
-4.2	$\sigma_{\text{SB}}$	1	0	-3	Stefan-Boltzmann const				
-3.0	$\rho_{\text{atm}}$	1	-3	0	Atmos.density				
-2.1	$\alpha$	0	0	0	Fine Structure const				
-1.8	Degree	0	0	0					
3.0	$g$	0	1	-2	Gravity at Earth				
3.8	$T_{\text{eff},\odot}$	0	0	0	Solar eff. temp.				
6.0	$P_{\text{atm}}$	1	-1	-2	Atmos. pressure				
7.5	Year	0	0	1					
10.2	$R_J$	0	1	0	Jupiter radius				
10.4	c	0	1	-1	speed of light				
10.8	$R_{\odot}$	0	1	0	Solar radius				
13.2	AU	0	1	0	distance to $\odot$				
18.5	Pc	0	1	0	Parsec				
30.3	$M_J$	1	0	0	Jupiter mass				
33.3	$M_{\odot}$	1	0	0	Solar mass				
33.6	$L_{\odot}$	1	2	-3	Solar luminosity				
36.1	$e^2/Gm_p^2$	0	0	0	Electric/Grav. force ratio.				

**Useful rules of thumb:**

$\alpha \equiv e^2/\hbar c = 1/137 = v_e/c$  in an H atom.

$k_B(300\text{K}) \simeq 1/40$  eV.

$k_B(10^7\text{K}) \simeq$  keV.

$\hbar c = 2000$  eV Å.

km/s = Pc/Myr.

$m_e c^2 = 511$  keV.

interatomic spacing  $\simeq 3\text{\AA}$ .