Reading Numbers and Symbols in Physics

Numbers:

0	Zero; Naught
-1	Negative one; Minus one
$+1$	Positive one; Plus one
∞	Infinity
$-\infty$	Negative infinity; Minus infinity
1,000	One thousand
1,000,000	One million
1,000,000,000	One billion
1,000,000,000,000	One trillion
123,456,789,321	One hundred twenty-three billion, four hundred fifty-six million, seven hundred eighty-nine thousand, three hundred twenty-one
$\frac{1}{2}$	One-half; One over two
$\frac{1}{3}$	One-third; One over three
$\frac{2}{3}$	Two-thirds; Two over three
$\frac{1}{4}$	One-quarter; One-fourth; One over four
$\frac{3}{4}$	Three-quarters; Three-fourths; Three over four
$\frac{1}{5}$	One-fifth; One over five
$\frac{2}{5}$	Two-fifths; Two over five
$\frac{1}{6}$	One-sixth; One over six
$\frac{5}{6}$	Five-sixths; Five over six
$\frac{1}{7}$	One-seventh; One over seven
$\frac{1}{10}$	One-tenth; One over ten
$\frac{1}{16}$	One-sixteenth; One over sixteen
$\frac{15}{16}$	Fifteen-sixteenths; Fifteen over sixteen
$\frac{7}{257}$	Seven-two hundred fifty-sevenths; Seven over two hundred fifty-seven
$\frac{3}{2}$	Three-halves; Three over two
$1\frac{1}{2}$	One and a half
$2\frac{5}{6}$	Two and five-sixths

π	Pi
$2\,\pi$	Two pi
$\frac{\pi}{2}$	Pi over two
$\frac{3\pi}{2}$	Three pi over two
0.1	Zero point one; (One-tenth)
0.01	Zero point zero one; (One-hundredth)
0.001	Zero point zero zero one; (One-thousandth)
98.765	Ninety-eight point seven six five; (Ninety-eight and seven hundred sixty-five thousands)
4.769×10^{18}	Four point seven six nine times ten to the eighteenth (power)
5.328×10^{-9}	Five point three two eight times ten to the negative ninth (power); Five point three two eight times ten to the minus ninth (power)

Math Functions:

$A + B = C$	A plus B equals C; the sum of A and B is equal to C
$A - B = C$	A minus B equals C; the difference of A and B is equal to C
$A \times B = C$	A times B equals C; the product of A and B is equal to C
$A \div B = C$	A divided by B equals C; the quotient of A and B is equal to C
$\frac{A}{B}$	A over B; A divided by B
A^2	A squared; A to the second (power)
A^3	A cubed; A to the third (power)
A^4	A to the fourth (power)
A^n	A to the n-th (power)
$A^2 + B^2 = C^2$	A squared plus B squared equals C squared; the Pythagorean Theorem
A^{-1}	A to the negative one (power); A to the minus one (power); A inverse
A^{-2}	A to the negative two (power); A to the minus two (power)
A^{-3}	A to the negative three (power); A to the minus three (power)
A^{-n}	A to the negative n (power); A to the minus n (power)
$A^{1/2}$	A to the one-half (power)
$A^{2/3}$	A to the two-thirds (power)
$A^{1/5}$	A to the one-fifth (power)
$A^{1/n}$	A to the one over n (power)

$\sqrt{A}$	The square root of A
$\sqrt[3]{A}$	The cubed root of A
$\sqrt[4]{A}$	The 4th root of A
$\sqrt[n]{A}$	The nth root of A
$\sqrt{A^2}$	The square root of A squared
$\left(\sqrt{A}\right)^2$	The square of the square root of A
$\sqrt{a^2+b^2}$	The square root of the quantity a squared plus b squared
$\frac{A+B}{D}$	A plus B, all divided by D; the sum of A and B divided by D
$\frac{A+(B\times C)}{D}$	A plus the product of B and C, all divided by D
$\frac{A\times(B+C)}{D}$	A times the sum of B and C, all divided by D
$\pm$	Plus or minus
$\frac{-b\pm\sqrt{b^2-4ac}}{2a}$	Negative b plus or minus the square root of the difference of b squared minus four times a times c, all divided by two times a; the Quadratic Formula
$A \approx B$	A is approximately equal to B; A is approximately B
$c \approx 3.0\times10^8$ m/s	c is approximately three point zero times ten to the eighth meters per second
$A > B$	A is greater than B
$A < B$	A is less than B
$A \geq B$	A is greater than or equal to B
$A \leq B$	A is less than or equal to B
$A \neq B$	A is not equal to B
$\lvert A\rvert$	The absolute value of A
$D!$	Factorial; the factorial of D
( )	Parentheses
(	Open parenthesis
)	Close parenthesis
[ ]	Brackets
[	Open bracket
]	Close bracket
{ }	Braces
{	Open brace
}	Close brace

$f(x)$	f of x; a function of x
$f'(x)$	f prime of x; the derivative of f of x
$f''(x)$	f double prime of x; the second derivative of f of x
$\lim_{x\to\infty} \frac{1}{x}$	The limit as x approaches infinity of one over x
$\frac{dy}{dx}$	The derivative of y with respect to x
$\int_0^\infty x + 2\, dy$	The integral from zero to infinity of x plus 2 with respect to y
θ	Theta
$\sin\theta$	Sine theta
$\cos\theta$	Cosine theta
$\tan\theta$	Tangent theta

Other Symbols:

$\bar{v}$	V bar; Average velocity; Mean velocity
v_0	V naught; V zero
v_i	V i; V sub i; V initial; Initial velocity
v_f	V f; V sub f; V final; Final velocity
$v_i{}^2$	V i squared; V sub i squared; V initial squared; Initial velocity squared
E_T	E sub T; Total Energy
*	Asterisk
———	Solid line
- - - - - -	Broken line; Dashed Line
.....	Dotted line

Sources for more information

Lawrence Chang's book *Handbook for Spoken Mathematics: Larry's Speakeasy* (1983)

Website of Project Math Access Handbook for Spoken Mathematics hosted by the Texas School for the Blind and Visually Impaired http://www.tsbvi.edu/mathproject/appB-sec1,asp#main