

2. MATHEMATICS

SYMBOLS

+		PLUS, POSITIVE OR ADD
-		MINUS, NEGATIVE OR SUBTRACT
x	OR *	MULTIPLY
÷	OR /	DIVIDE
=		EQUAL (S)
≠		DOES NOT EQUAL
≈		APPROXIMATELY EQUAL
>		GREATER THAN
≥		EQUAL TO OR GREATER THAN
<		LESS THAN
≤		LESS THAN OR EQUAL TO
±		PLUS OR MINUS; CHANGE SIGN
$\frac{1}{n}$		RECIPROCAL ($\frac{1}{2} = 0.5$)
\sqrt{n}		SQUARE ROOT OF n
$\sqrt[3]{n}$		CUBE ROOT OF n

POWERS OF TEN

10^{-9}	= 0.000000001	1 BILLIONTH (NANO)
10^{-8}	= 0.00000001	
10^{-7}	= 0.0000001	
10^{-6}	= 0.000001	1 MILLIONTH (MICRO)
10^{-5}	= 0.00001	
10^{-4}	= 0.0001	
10^{-3}	= 0.001	1 THOUSANDTH (MILLI)
10^{-2}	= 0.01	
10^{-1}	= 0.1	
10^0	= 1	1 UNIT
10^1	= 10	
10^2	= 100	
10^3	= 1,000	THOUSAND (KILO)
10^4	= 10,000	
10^5	= 100,000	
10^6	= 1,000,000	MILLION (MEGA)
10^7	= 10,000,000	
10^8	= 100,000,000	
10^9	= 1,000,000,000	BILLION (GIGA)

ALGEBRAIC TRANSPOSITION

IF $A + B = C$, THEN: IF $\frac{A}{B} = \frac{C}{D}$, THEN:

$$A = C - B$$

$$AD = BC$$

$$B = C - A$$

$$A = \frac{BC}{D}$$

$$A + B - C = 0$$

$$B = \frac{AD}{C}$$

IF $A = \frac{B}{C}$, THEN:

$$C = \frac{AD}{B}$$

$$B = AC$$

$$D = \frac{BC}{A}$$

$$C = \frac{B}{A}$$

LAW OF EXPONENTS

$$\left(\frac{a}{b}\right)^x = \frac{a^x}{b^x} \quad (a^x)(a^y) = a^{x+y}$$

$$\frac{a^x}{a^y} = a^{x-y} \quad (a^x)^y = a^{xy}$$

$$a^{-x} = \frac{1}{a^x} \quad a^{\frac{x}{y}} = \sqrt[y]{a^x}$$

COMMON LOGARITHMS

THE COMMON LOGARITHM (\log_{10} OR \log) OF A NUMBER IS THE POWER OF 10 THAT EQUALS THE NUMBER. SINCE $10^2 = 100$, 2 IS THE LOG OF 100. THE ANTILOGARITHM (ANTILOG) IS THE NUMBER THAT EQUALS A LOGARITHM. THUS THE ANTILOG OF 2 IS 100. THE LOG OF NUMBERS GREATER THAN 1 IS POSITIVE; THE LOG OF NUMBERS LESS THAN 1 IS NEGATIVE. THUS THE LOG OF 10^{-2} OR 0.01 IS -2. $A \times B = \text{ANTILOG}(\log A + \log B)$; $A \div B = \text{ANTILOG}(\log A - \log B)$. SCIENTIFIC CALCULATORS HAVE LOG AND ANTILOG KEYS.