

**LOG2****PURPOSE**

Compute the base 2 logarithm of a number.

**DESCRIPTION**

The base 2 logarithm is the inverse of the function:

$$y = 2^x \quad (\text{EQ 6-97})$$

That is, given the value of  $y$ , the log is the value of the exponent. The input value must be greater than zero.

Logarithms are a commonly used transformation. The two primary reasons are to symmetrize a skewed data set or to reduce the magnitude of large scale numbers.

**SYNTAX**

LET <y2> = LOG2(<y1>) <SUBSET/EXCEPT/FOR qualification>

where <y1> is a variable or a parameter containing decimal number(s);

<y2> is a variable or a parameter (depending on what <y1> is) where the computed base 2 logarithms are stored; and where the <SUBSET/EXCEPT/FOR qualification> is optional.

**EXAMPLES**

LET A = LOG2(14)

LET X2 = LOG2(X1)

LET X2 = LOG2(X1-4)

**DEFAULT**

None

**SYNONYMS**

None

**RELATED COMMANDS**

LOG10	=	Compute the base 10 logarithm of a number.
LN	=	Compute the natural logarithms of a number.
LOG	=	Specify logarithmic scales on either the X or Y axis.

**APPLICATIONS**

Data transformation

**IMPLEMENTATION DATE**

Pre-1987

PROGRAM

TITLE AUTOMATIC

PLOT LOG2(X) FOR X = .01 .01 9.9

