

LN**PURPOSE**

Compute the natural logarithm of a number.

DESCRIPTION

The natural logarithm is the inverse of the exponential function:

$$y = e^x \quad (\text{EQ 6-95})$$

That is, given the value of y , the log is the value of the exponent. The input value y 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> = LN(<y1>) <SUBSET/EXCEPT/FOR qualification>
 where <y1> is a variable or a parameter containing positive decimal number(s);
 <y2> is a variable or a parameter (depending on what <y1> is) where the computed natural logarithms are stored;
 and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

```
LET A = LN(14)
LET A = LN(A1)
LET X2 = LN(X1)
LET X2 = LN(X1-4)
```

DEFAULT

None

SYNONYMS

LOG

RELATED COMMANDS

LOG10	=	Compute the base 10 logarithm of a number.
LOG2	=	Compute the base 2 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 LN(X) FOR X = .01 .01 9.9

