SEC

PURPOSE

Compute the secant (the reciprocal of the cosine) for a variable or parameter.

DESCRIPTION

The secant is defined for all real numbers except $\pi/2$ +/- K*π where K is an integer. The range is 1 to plus infinity and -1 to negative infinity. By default, the angle is specified in radian units. To use degree values, enter the command ANGLE UNITS DEGREES (ANGLE UNITS RADIANS resets it).

SYNTAX

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

where <y1> is a number, parameter, or variable;

<y2> is a variable or a parameter (depending on what <y1> is) where the computed secant value is stored;

and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

LET A = SEC(-2)
LET A = SEC(A1)
LET X2 = SEC(PI/2)

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

SIN	=	Compute sine.
COS	=	Compute cosine.
TAN	=	Compute tangent.
COT	=	Compute cotangent.
CSC	=	Compute cosecant.
ARCCOS	=	Compute arccosine.
ARCSIN	=	Compute arcsine.
ARCTAN	=	Compute arctangent.
ARCCOT	=	Compute arccotangent.
ARCSEC	=	Compute arcsecant.
ARCCSC	=	Compute arcsecant.

APPLICATIONS

Trigonometry

IMPLEMENTATION DATE

Pre-1987

PROGRAM

```
TITLE SEC(X) FOR X = -3.14 TO 3.14
X1LABEL ANGLE (RADIANS)
Y1LABEL SEC(X)
YLIMITS -20 20
XLIMITS -3 3
XTIC OFFSET .2 .2
PLOT SEC(X) FOR X = -1.56 0.01 1.56 AND
PLOT SEC(X) FOR X = 1.58 0.01 3.14 AND
PLOT SEC(X) FOR X = -1.58 -0.01 -3.14
LINE DOTTED
MOVEDATA -3.14 1
DRAWDATA 3.14 1
MOVEDATA -3.14 -1
DRAWDATA 3.14 -1
MOVEDATA 1.57 20
DRAWDATA 1.57 -20
MOVEDATA -1.57 20
DRAWDATA -1.57 -20
```