ARCSEC

PURPOSE

Compute the arcsecant for a variable or parameter.

DESCRIPTION

The arcsecant is the angle whose secant is equal to the given value. The returned angle will be in the range 0 to π. By default, the angle is returned in radian units. To use degree values, enter the command ANGLE UNITS DEGREES (ANGLE UNITS RADIANS resets it). Input values in the range -1 to 1 generate an error message.

SYNTAX

LET <y2> = ARCSEC(<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 arcsecant value is stored;

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

EXAMPLES

LET A = ARCSEC(-2)
LET A = ARCSEC(A1)
LET X2 = ARCSEC(X1-4)

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

ARCCOS	=	Compute arccosine.
ARCCOSH	=	Compute hyperbolic arccosine.
ARCCOT	=	Compute arccotangent.
ARCCOTH	=	Compute hyperbolic arccotangent.
ARCCSC	=	Compute arccosecant.
ARCCSCH	=	Compute hyperbolic arccosecant.
ARCSECH	=	Compute hyperbolic arcsecant.
ARCSIN	=	Compute arcsine.
ARCSINH	=	Compute hyperbolic arcsine.
ARCTAN	=	Compute arctangent.
ARCTANH	=	Compute hyperbolic arctangent.

APPLICATIONS

Trigonometry

IMPLEMENTATION DATE

Pre-1987

PROGRAM

```
X1LABEL SECANT(Y)
Y1LABEL ANGLE (RADIANS)
TITLE ARCSEC FOR X = -10 TO 10
YLIMITS 0 3
YTIC OFFSET 0 0.2
PLOT ARCSEC(X) FOR X = 1 .01 2 AND
PLOT ARCSEC(X) FOR X = 2 .1 10 AND
PLOT ARCSEC(X) FOR X = -1 -.01 -2 AND
PLOT ARCSEC(X) FOR X = -2 -.1 -10
LINE DOTTED
MOVEDATA -10 1.57
DRAWDATA 10 1.57
MOVEDATA 1 0
DRAWDATA 1 3.2
MOVEDATA -1 0
DRAWDATA -1 3.2
```