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