

ARCSIN**PURPOSE**

Compute the arcsine for a variable or parameter.

DESCRIPTION

The arcsine is the angle whose sine is equal to the given value. The returned value is in the range $-\pi/2$ to $\pi/2$. 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 outside the range -1 to 1 generate an error message.

SYNTAX

LET <y2> = ARCSIN(<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 arcsine value is stored; and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

LET A = ARCSIN(-2)

LET A = ARCSIN(A1)

LET X2 = ARCSIN(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.
ARCSEC	=	Compute secant.
ARCSECH	=	Compute hyperbolic arcsecant.
ARCSINH	=	Compute hyperbolic arcsine.
ARCTAN	=	Compute arctangent.
ARCTANH	=	Compute hyperbolic arctangent.

APPLICATIONS

Trigonometry

IMPLEMENTATION DATE

Pre-1987

PROGRAM

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XILABEL SIN(Y)
YILABEL ANGLE (RADIANS)
TITLE ARCSIN(X) FOR X = -1 TO 1
PLOT ARCSIN(X) FOR X = -1 .01 1
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