

TAN**PURPOSE**

Compute the tangent for a variable or parameter.

DESCRIPTION

The tangent is defined for all real x except $\pi/2 +/ - K*\pi$ where K is an integer. The range is minus infinity to plus 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> = TAN(<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 tangent value is stored; and where the `<SUBSET/EXCEPT/FOR qualification>` is optional.

EXAMPLES

`LET A = TAN(-2)`

`LET A = TAN(A1)`

`LET X2 = TAN(PI/2)`

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

SIN	=	Compute sine.
COS	=	Compute cosine.
COT	=	Compute cotangent.
SEC	=	Compute secant.
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 TAN(X) FOR X = -3.14 TO 3.14
XILABEL ANGLE (RADIANS)
YILABEL TAN(X)
YLIMITS -10 10
XLIMITS -3 3
XTIC OFFSET .2 .2
PLOT TAN(X) FOR X = -1.57 0.01 1.57 AND
PLOT TAN(X) FOR X = 1.58 0.01 3.14 AND
PLOT TAN(X) FOR X = -1.58 -0.01 -3.14
LINES DOTTED
MOVEDATA -3.14 0
DRAWDATA 3.14 0
MOVEDATA 1.57 10
DRAWDATA 1.57 -10
MOVEDATA -1.57 10
DRAWDATA -1.57 -10
```

