GAMMAR

PURPOSE

Compute the reciprocal gamma function.

DESCRIPTION

The reciprocal gamma function is defined as:

$$\text{GAMMAR}(x, a) = \frac{1}{\int_0^\infty x^{a-1} e^{-x} dx} \qquad x > 0 \qquad \textbf{(EQ 6-92)}$$

where a is a positive real number.

SYNTAX

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

where <y1> is a variable or a parameter containing positive values;

<y2> is a variable or a parameter (depending on what <y1> is) where the computed reciprocal gamma values are stored;

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

EXAMPLES

LET A = GAMMAR(1)

LET X2 = GAMMAR(X1)

NOTE

DATAPLOT uses the routine DGAMR from the SLATEC Common Mathematical Library to compute this function. SLATEC is a large set of high quality, portable, public domain Fortran routines for various mathematical capabilities maintained by seven federal laboratories.

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

GAMMA	=	Compute the gamma function.
LOGGAMMA	=	Compute the log (to base e) gamma function.
GAMMAI	=	Compute the incomplete Gamma function.
GAMMAIP	=	Compute an alternate form of the incomplete gamma function.
GAMMAIC	=	Compute the complementary incomplete Gamma function.
GAMMAR	=	Compute the reciprocal gamma function.
TRICOMI	=	Compute Tricomi's incomplete gamma function.
DIGAMMA	=	Compute the digamma function.

REFERENCE

"Handbook of Mathematical Functions, Applied Mathematics Series, Vol. 55,", Abramowitz and Stegun, National Bureau of Standards, 1964 (chapter 6).

"Numerical Recipes: The Art of Scientific Computing (FORTRAN Version)," 2nd Edition, Press, Flannery, Teukolsky, and Vetterling, Cambridge University Press, 1992 (chapter 6).

APPLICATIONS

Special Functions

IMPLEMENTATION DATE

94/9

PROGRAM

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TITLE AUTOMATIC
PLOT GAMMAR(X) FOR X = 0.01 0.01 6
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