

ERFC

PURPOSE

Compute the complementary error function.

DESCRIPTION

The complementary error function of x is defined as:

$$\operatorname{erfc}(x) = 1.0 - \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt \quad (\text{EQ 6-85})$$

This function is defined for non-negative numbers. The returned value will be between 0 and 1.

SYNTAX

LET <y2> = ERFC(<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 complementary error function values are stored;

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

EXAMPLES

LET A = ERFC(1.5)

LET X2 = ERFC(X1)

LET X2 = ERFC(X1-4)

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

ERF = Compute the error function of a number.

GAMMAI = Compute the incomplete gamma function of a number.

APPLICATIONS

Special functions

IMPLEMENTATION DATE

Pre-1987

PROGRAM

```
TITLE AUTOMATIC
XLIMITS 0 5
MAJOR XTIC MARK NUMBER 6
YLIMITS 0 1
MAJOR YTIC MARK NUMBER 6
PLOT ERFC(X) FOR X = 0 .01 5
```

