



Linux Ubuntu 26.04 Manual Pages on command 'tgamma.3'

\$ man tgamma.3

tgamma(3) Library Functions Manual tgamma(3)

NAME

tgamma, tgammaf, tgammal - true gamma function

LIBRARY

Math library (libm, -lm)

SYNOPSIS

```
#include <math.h>

double tgamma(double x);

float tgammaf(float x);

long double tgammal(long double x);
```

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

```
tgamma(), tgammaf(), tgammal():
    _ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
```

DESCRIPTION

These functions calculate the Gamma function of x.

The Gamma function is defined by

$$\Gamma(x) = \int_0^{\infty} t^{(x-1)} e^{-t} dt$$

It is defined for every real number except for nonpositive integers. For nonnegative inte?

gral m one has

$$\Gamma(m+1) = m!$$

and, more generally, for all x:

$$\Gamma(x+1) = x * \Gamma(x)$$

Furthermore, the following is valid for all values of x outside the poles:

[illegible]