NAME

asinh, asinhf, asinhl − inverse hyperbolic sine function

LIBRARY

Math library (*libm*, *−lm*)

SYNOPSIS

```
#include <math.h>

double asinh(double x);
float asinhf(float x);
long double asinhl(long double x);
```

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

asinh():
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
|| _XOPEN_SOURCE >= 500
|| /* Since glibc 2.19: */ _DEFAULT_SOURCE
|| /* glibc <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

asinhf(), **asinhl**():
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
|| /* Since glibc 2.19: */ _DEFAULT_SOURCE
|| /* glibc <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

DESCRIPTION

These functions calculate the inverse hyperbolic sine of *x*; that is the value whose hyperbolic sine is *x*.

RETURN VALUE

On success, these functions return the inverse hyperbolic sine of *x*.

If *x* is a NaN, a NaN is returned.

If *x* is +0 (−0), +0 (−0) is returned.

If *x* is positive infinity (negative infinity), positive infinity (negative infinity) is returned.

ERRORS

No errors occur.

ATTRIBUTES

For an explanation of the terms used in this section, see **attributes**(7).

Interface	Attribute	Value
asinh(), **asinhf**(), **asinhl**()	Thread safety	MT-Safe

STANDARDS

C99, POSIX.1-2001, POSIX.1-2008.

The variant returning *double* also conforms to SVr4, 4.3BSD.

SEE ALSO

acosh(3), **atanh**(3), **casinh**(3), **cosh**(3), **sinh**(3), **tanh**(3)