

# ASIN(3)

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ASIN(3)    Linux Programmer's Manual    ASIN(3)

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## NAME

asin, asinf, asinl - arc sine function

## SYNOPSIS

```
#include <math.h>

double asin(double x);

float asinf(float x);

long double asinl(long double x);
```

Link with -lm.

Feature Test Macro Requirements for glibc (see **feature\_test\_macros(7)**):

**asinf()**, **asinl()**:

```
_BSD_SOURCE || _SVID_SOURCE || _XOPEN_SOURCE >= 600 ||
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L;
```

or cc -std=c99

## DESCRIPTION

The **asin**() function calculates the principal value of the arc sine of x; that is the value whose sine is x.

## RETURN VALUE

On success, these functions return the principal value of the arc sine of x in radians; the return value is in the range  $[-\pi/2, \pi/2]$ .

If x is a NaN, a NaN is returned.

If x is +0 (-0), +0 (-0) is returned.

If x is outside the range  $[-1, 1]$ , a domain error occurs, and a NaN is returned.

## ERRORS

See **math\_error**(7) for information on how to determine whether an error has occurred when calling these functions.

The following errors can occur:

**Domain error: x is outside the range  $[-1, 1]$**  errno is set to **EDOM**. An invalid floating-point exception (**FE\_INVALID**) is raised.

## CONFORMING TO

C99, POSIX.1-2001. The variant returning double also conforms to SVr4, 4.3BSD, C89.

## SEE ALSO

**acos**(3), **atan**(3), **atan2**(3), **casin**(3), **cos**(3), **sin**(3), **tan**(3)

## COLOPHON

This page is part of release 3.54 of the Linux man-pages project. A description of the project, and information about reporting bugs, can be found at <http://www.kernel.org/doc/man-pages/>.

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