

## NAME

*sin*, *cos*, *tan*, *asin*, *acos*, *atan*, *atan2* — trigonometric functions

## SYNOPSIS

```
#include <math.h>
```

```
double sin (x)
```

```
double x;
```

```
double cos (x)
```

```
double x;
```

```
double asin (x)
```

```
double x;
```

```
double acos (x)
```

```
double x;
```

```
double atan (x)
```

```
double x;
```

```
double atan2 (x, y)
```

```
double x, y;
```

## DESCRIPTION

*Sin*, *cos*, and *tan* return trigonometric functions of radian arguments. The magnitude of the argument should be checked by the caller to make sure the result is meaningful.

*Asin* returns the arc sin in the range  $-\pi/2$  to  $\pi/2$ .

*Acos* returns the arc cosine in the range 0 to  $\pi$ .

*Atan* returns the arc tangent of  $x$  in the range  $-\pi/2$  to  $\pi/2$ .

*Atan2* returns the arc tangent of  $x/y$  in the range  $-\pi$  to  $\pi$ .

## DIAGNOSTICS

Arguments of magnitude greater than 1 cause *asin* and *acos* to return value 0.