

## Bing

There are many Math methods in Java that can help you perform various mathematical operations and calculations. Here are some examples of how to use some of the most common Math methods in Java:

- **Basic Math Methods:** These methods are used to perform basic arithmetic operations, such as addition, subtraction, multiplication, division, modulus, etc. Some of the basic Math methods are:

- `Math.min(a,b)`: This method returns the smaller of two values `a` and `b`. For example:

```
int x = 10;
int y = 20;
int z = Math.min(x,y); // z is 10
```

- `Math.max(a,b)`: This method returns the larger of two values `a` and `b`. For example:

```
int x = 10;
int y = 20;
int z = Math.max(x,y); // z is 20
```

- `Math.abs(a)`: This method returns the absolute value of `a`, which is the positive value of `a` regardless of its sign. For example:

```
int x = -5;
int y = Math.abs(x); // y is 5
```

- `Math.round(a)`: This method returns the closest long value to `a`, rounding up if `a` is halfway between two integers. For example:

```
double x = 3.6;
long y = Math.round(x); // y is 4
```

- `Math.ceil(a)`: This method returns the smallest double value that is greater than or equal to `a` and is equal to a mathematical integer. For example:

```
double x = 3.2;
double y = Math.ceil(x); // y is 4.0
```

- `Math.floor(a)`: This method returns the largest double value that is less than or equal to `a` and is equal to a mathematical integer. For example:

```
double x = 3.8;
double y = Math.floor(x); // y is 3.0
```

- **Trigonometric Math Methods:** These methods are used to perform trigonometric functions, such as sine, cosine, tangent, etc. Some of the trigonometric Math methods are:

- `Math.sin(a)`: This method returns the sine of `a`, where `a` is an angle in radians. For example:

```
double x = Math.PI / 6; // x is 30 degrees in radians
double y = Math.sin(x); // y is 0.5
```

- `Math.cos(a)`: This method returns the cosine of `a`, where `a` is an angle in radians. For example:

```
double x = Math.PI / 3; // x is 60 degrees in radians
double y = Math.cos(x); // y is 0.5
```

- `Math.tan(a)`: This method returns the tangent of `a`, where `a` is an angle in radians. For example:

```
double x = Math.PI / 4; // x is 45 degrees in radians
double y = Math.tan(x); // y is 1.0
```

- `Math.asin(a)`: This method returns the arc sine of a, which is the angle in radians whose sine is a. For example:

```
double x = 0.5;
double y = Math.asin(x); // y is pi/6 or 30 degrees in radians
```

- `Math.acos(a)`: This method returns the arc cosine of a, which is the angle in radians whose cosine is a. For example:

```
double x = 0.5;
double y = Math.acos(x); // y is pi/3 or 60 degrees in radians
```

- `Math.atan(a)`: This method returns the arc tangent of a, which is the angle in radians whose tangent is a. For example:

```
double x = 1.0;
double y = Math.atan(x); // y is pi/4 or 45 degrees in radians
```

- **Logarithmic Math Methods:** These methods are used to perform logarithmic functions, such as natural logarithm, base 10 logarithm, etc. Some of the logarithmic Math methods are:

- `Math.log(a)`: This method returns the natural logarithm (base e) of a. For example:

```
double x = Math.E; // x is Euler's number or e
double y = Math.log(x); // y is 1.0
```

- `Math.log10(a)`: This method returns the base 10 logarithm of a. For example:

```
double x = 100.0;
double y = Math.log10(x); // y is 2.0
```

- `Math.log1p(a)`: This method returns the natural logarithm (base e) of 1 plus a. For example:

```
double x = 0.5;
double y = Math.log1p(x); // y is ln(1.5) or 0.4054651081081644
```

- `Math.exp(a)`: This method returns e raised to the power of a. For example:

```
double x = 2.0;
double y = Math.exp(x); // y is e^2 or 7.38905609893065
```

- `Math.expm1(a)`: This method returns e raised to the power of a minus 1. For example:

```
double x = 2.0;
double y = Math.expm1(x); // y is e^2 - 1 or 6.38905609893065
```

- **Hyperbolic Math Methods:** These methods are used to perform hyperbolic functions, such as hyperbolic sine, hyperbolic cosine, hyperbolic tangent, etc. Some of the hyperbolic Math methods are:

- `Math.sinh(a)`: This method returns the hyperbolic sine of a. For example:

```
double x = 1.0;
double y = Math.sinh(x); // y is sinh(1) or 1.1752011936438014
```

- `Math.cosh(a)`: This method returns the hyperbolic cosine of a. For example:

```
double x = 1.0;
double y = Math.cosh(x); // y is cosh(1) or 1.5430806348152437
```

- `Math.tanh(a)`: This method returns the hyperbolic tangent of a. For example:

```
double x = 1.0;
double y = Math.tanh(x); // y is tanh(1) or 0.7615941559557649
```

- Angular Math Methods: These methods are used to convert angles between radians and degrees. Some of the angular Math methods are:

- `Math.toRadians(a)`: This method converts an angle measured in degrees to an equivalent angle measured in radians. For example:

```
double x = 90.0; // x is 90 degrees in degrees
double y = Math.toRadians(x); // y is pi/2 or 1.5707963267948966 radians
```

- `Math.toDegrees(a)`: This method converts an angle measured in radians to an equivalent angle measured in degrees. For example:

```
double x = Math.PI / 2; // x is pi/2 radians
double y = Math.toDegrees(x); // y is 90 degrees in degrees
```

These are some examples of how to use some of the most common Math methods in Java. You can find more information about them and other Math methods on these web pages: [Math \(Java Platform SE 8 \)](#), [Java Math class with Methods](#), [Math Functions in Java](#), [Java.lang.Math Class and Methods](#). I hope this helps you learn more about Math methods in Java. 😊