

JavaScript

Math Methods

JavaScript Math methods with examples



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JavaScript Math Methods

Math.abs()

The Math.abs() returns the absolute (positive) value of a number x.



```
1 const num = -5;  
2 const absoluteValue = Math.abs(num); // 5  
3 console.log(absoluteValue);
```

JavaScript Math Methods

Math.acos()

The Math.acos() returns the arccosine (in radians) of a number x.



```
1 const x = 0.5;  
2 const arccosine = Math.acos(x);  
3 // 1.0471975511965979 radians (approximately)  
4 console.log(arccosine);
```

JavaScript Math Methods

Math.acosh()

The Math.acosh() returns the inverse hyperbolic cosine of a number x.



```
1 const x = 2;  
2 const inverseHyperbolicCosine = Math.acosh(x);  
3 // 1.3169578969248166 (approximately)  
4 console.log(inverseHyperbolicCosine);
```

JavaScript Math Methods

Math.asin()

The Math.asin() returns the arcsine (in radians) of a number x.



```
1 const x = 0.5;  
2 const arcsine = Math.asin(x);  
3 // 0.5235987755982989 radians (approximately)  
4 console.log(arcsine);
```

JavaScript Math Methods

Math.asinh()

The Math.asinh() returns the inverse hyperbolic sine of a number x.



```
1 const x = 2;  
2 const inverseHyperbolicSine = Math.asinh(x);  
3 // 1.4436354751788103 (approximately)  
4 console.log(inverseHyperbolicSine);
```

JavaScript Math Methods

Math.atan()

The Math.atan() returns the arctangent (in radians) of the number x.



```
1 const x = 1;  
2 const arctangent = Math.atan(x);  
3 // 0.7853981633974483 radians (approximately)  
4 console.log(arctangent);
```

JavaScript Math Methods

Math.atan2()

The Math.atan2() returns the arctangent of the quotient of its arguments y and x.



```
1 const x = 1;  
2 const y = 2;  
3 const arctangent = Math.atan2(y, x);  
4 // 1.107148177940904 radians (approximately)  
5 console.log(arctangent);
```

JavaScript Math Methods

Math.atanh()

The Math.atanh() returns the inverse hyperbolic tangent of the number x.



```
1 const x = 0.5;  
2 const inverseHyperbolicTangent = Math.atanh(x);  
3 // 0.5493061443340549 (approximately)  
4 console.log(inverseHyperbolicTangent);
```

JavaScript Math Methods

Math.cbrt()

The Math.cbrt() returns the cube root of the number x.



```
1 const x = 27;  
2 const cubeRoot = Math.cbrt(x); // 3  
3 console.log(cubeRoot);
```

JavaScript Math Methods

Math.ceil()

The Math.ceil() returns the arctangent (in radians) of the number x.



```
1 const num = 4.2;  
2 const ceiling = Math.ceil(num); // 5  
3 console.log(ceiling);
```

JavaScript Math Methods

Math.clz32()

The Math.clz32() returns the number of leading zero bits in the 32-bit binary representation of the number x.



```
1 const num = 7;  
2 // Binary representation of number 7:  
3 // 000000000000000000000000000000111  
4 const leadingZeros = Math.clz32(num); // 29  
5 console.log(leadingZeros);
```

JavaScript Math Methods

Math.cos()

The Math.cos() returns the cosine of the number x(measured in radians).



```
1 const angle = Math.PI / 3; // 60 degrees
2 const cosineValue = Math.cos(angle); // 0.5 (approximately)
3 console.log(cosineValue);
```

JavaScript Math Methods

Math.cosh()

The Math.cosh() returns the hyperbolic cosine of the number x.



```
1 const x = 2;  
2 const hyperbolicCosine = Math.cosh(x);  
3 // 3.7621956910836314 (approximately)  
4 console.log(hyperbolicCosine);
```

JavaScript Math Methods

Math.exp()

The Math.exp() return's e (Euler's number, approximately 2.71828) raised to the power of the number x.



```
1 const x = 2;  
2 const hyperbolicCosine = Math.cosh(x);  
3 // 3.7621956910836314 (approximately)  
4 console.log(hyperbolicCosine);
```

JavaScript Math Methods

Math.expm10

The Math.expm10 returns $e^x - 1$, where e is Euler's number, and x is a number.



```
1 const exponent = 2;  
2 const expMinusOne = Math.expm1(exponent);  
3 // 6.38905609893065 (approximately)  
4 console.log(expMinusOne);
```

JavaScript Math Methods

Math.floor()

The Math.floor() returns the largest integer less than or equal to a number x.



```
1 const num = 4.9;  
2 const floorValue = Math.floor(num); // 4  
3 console.log(floorValue);
```

JavaScript Math Methods

Math.fround()

The `Math.fround()` returns the nearest 32-bit single precision float representation of the number `x`.



```
1 const num = 1.234567890123456789;  
2 // Precision beyond 32 bits  
3 const singlePrecision = Math.fround(num);  
4 // 1.2345678806304932
```

JavaScript Math Methods

Math.hypot()

The Math.hypot() returns the square root of the sum of the squares of its arguments. It calculates the Euclidean distance (length) of a vector.



```
1 const side1 = 3;  
2 const side2 = 4;  
3 const hypotenuse = Math.hypot(side1, side2); // 5  
4 console.log(hypotenuse);
```

JavaScript Math Methods

Math.imul()

The Math.imul() returns the result of the 32-bit integer multiplication of two numbers x and y.



```
1 const num1 = 6;  
2 const num2 = 7;  
3 const product = Math.imul(num1, num2); // 42  
4 console.log(product);
```

JavaScript Math Methods

Math.log()

The Math.log() returns the natural logarithm (base e) of a number x.



```
1 const num = 10;  
2 const naturalLog = Math.log(num);  
3 // 2.302585092994046  
4 console.log(naturalLog);
```

JavaScript Math Methods

Math.log10

The Math.log10() returns the base 10 logarithm of a number x.



```
1 const num = 100;  
2 const logBase10 = Math.log10(num);  
3 // 2 (since 10^2 = 100)  
4 console.log(logBase10);
```

JavaScript Math Methods

Math.log1p()

The `Math.log1p()` returns the natural logarithm of 1 plus the number x . Useful for accurately calculating the logarithm of numbers close to 1.



```
1 const num = 0.5;  
2 const log1p = Math.log1p(num); // 0.4054651081081644  
3 console.log(log1p);
```

JavaScript Math Methods

Math.log20

The Math.log20 returns the base 2 logarithm of a number x.



```
1 const num = 8;  
2 const logBase2 = Math.log2(num); // 3 (since 2^3 = 8)  
3 console.log(logBase2);
```

JavaScript Math Methods

Math.max()

The Math.max() returns the largest of the given arguments or array elements.



```
1 const maxNumber = Math.max(5, 2, 9, 1, 7); // 9
2 console.log(maxNumber);
```

JavaScript Math Methods

Math.min()

The Math.min() returns the smallest of the given arguments or array elements.



```
1 const minNumber = Math.min(5, 2, 9, 1, 7); // 1
2 console.log(minNumber);
```

JavaScript Math Methods

Math.pow()

The Math.pow() returns x raised to the power of y.



```
1 const base = 2;  
2 const exponent = 3;  
3 const result = Math.pow(base, exponent);  
4 // 8 (2^3 = 8)  
5 console.log(result);
```

JavaScript Math Methods

Math.random()

The Math.random() returns a random floating-point number between 0 (inclusive) and 1 (exclusive).



```
1 const randomNum = Math.random();  
2 console.log(randomNum);  
3 // Random number between 0 and 1
```

JavaScript Math Methods

Math.round()

The Math.round() rounds a number to the nearest integer.



```
1 const num = 4.6;  
2 const rounded = Math.round(num); // 5  
3 console.log(rounded);
```

JavaScript Math Methods

Math.sign()

The Math.sign() returns the sign of a number `x` (1 for positive numbers, -1 for negative numbers, and 0 for zero).



```
1 const num = -7;  
2 const sign = Math.sign(num); // -1  
3 console.log(sign);
```

JavaScript Math Methods

Math.sin()

The Math.sin() returns the sine of a number x (measured in radians).



```
1 const angle = Math.PI / 6;  
2 // 30 degrees  
3 const sineValue = Math.sin(angle);  
4 // 0.5 (approximately)  
5 console.log(sineValue);
```

JavaScript Math Methods

Math.sinh()

The Math.sinh() returns the hyperbolic sine of a number x.



```
1 const x = 2;  
2 const hyperbolicSine = Math.sinh(x);  
3 // 3.6268604078470186 (approximately)  
4 console.log(hyperbolicSine);
```

JavaScript Math Methods

Math.sqrt()

The Math.sqrt() returns the square root of a number x.



```
1 const num = 25;  
2 const squareRoot = Math.sqrt(num); // 5  
3 console.log(squareRoot);
```

JavaScript Math Methods

Math.tan()

The Math.tan() returns the tangent of a number x (measured in radians).



```
1 const angle = Math.PI / 4; // 45 degrees
2 const tangentValue = Math.tan(angle);
3 // 1 (approximately)
4 console.log(tangentValue);
```

JavaScript Math Methods

Math.tanh()

The Math.tanh() returns the hyperbolic tangent of the number x.



```
1 const x = 1;  
2 const hyperbolicTangent = Math.tanh(x);  
3 // 0.7615941559557649 (approximately)  
4 console.log(hyperbolicTangent);
```

JavaScript Math Methods

Math.trunc()

The `Math.trunc()` returns the integer part of a number `x` by removing the fractional part (does not round).



```
1 const num = 4.9;  
2 const integerPart = Math.trunc(num); // 4  
3 console.log(integerPart);
```

JavaScript Math Methods

Which of these JavaScript
Math methods do you use
in your projects?

Let's connect and expand our
professional network together