# Date Object: Date & Time In JavaScript | JavaScript Tutorial In Hindi #24

With the advent of time, mathematical calculations have become an integral part of every programming language. In this article, we will cover the details of the Math object in JavaScript, which helps the user to perform all kinds of mathematical operations.

**The JavaScript Math Object:-**

The Math object is used to perform mathematical tasks. It is a built-in static object, so we do not need to instantiate it. We can access all its properties and methods directly. Math object works with the Number type. Unlike many other global objects, Math is not a constructor. We refer to the constant pi as **Math.PI** and we call the cos function as **Math.cos(x),** where x is the method's argument.

**Note:** Different browsers can give a different result. Even the same JavaScript engine on a different OS or architecture can give different results!

**JavaScript Math Methods:-**

Let's see the list of JavaScript Math methods with descriptions.

| Methods | Description |
|---|---|
| abs() | It will return the absolute value of the given number. |
| acos() | It will return the arccosine of the given number in radians. |
| asin() | It will return the arcsine of the given number in radians. |
| atan() | It will return the arc-tangent of the given number in radians. |
| cbrt() | It will return the cube root of the given number. |
| ceil() | It will return a smallest integer value, greater than or equal to the given number. |
| cos() | It will return the cosine of the given number. |
| cosh() | It will return the hyperbolic cosine of the given number. |

| | |
|---|---|
| exp() | It will return the exponential form of the given number. |
| floor() | It will return the largest integer value, lower than or equal to the given number. |
| hypot() | It will return the square root of sum of the squares of given numbers. |
| log() | It will return the natural logarithm of a number. |
| max() | It will return the maximum value of the given numbers. |
| min() | It will return the minimum value of the given numbers. |
| pow() | It will return the value of base to the power of exponent. |
| random() | It will return the random number between 0 (inclusive) and 1 (exclusive). |
| round() | It will return the closest integer value of the given number. |
| sin() | It will return the sine of the given number. |
| sinh() | It will return the hyperbolic sine of the given number. |
| sqrt() | It will return the square root of the given number |
| tan() | It will return the tangent of the given number. |
| tanh() | It will return the hyperbolic tangent of the given number. |
| trunc() | It will return an integer part of the given number. |

**Converting between degrees and radians:-**

The trigonometric functions such as sin(), cos(),tan() expect angles in *radians*.

Since humans tend to think in degrees, and some functions can accept degrees, it is good to keep functions handy that convert between the two. Here is an example:

```
function degToRad(degrees) {
  return degrees * (Math.PI / 180);
};
function radToDeg(rad) {
  return rad / (Math.PI / 180);
};
```

**Key Takeaways:-**

The math object is one of the most important features in JavaScript, as it provides various properties and methods which can perform mathematical operations. We can use mathematical constants such as PI and Log values using the properties provided by Math object such as Math.PI. In addition to the above, we can also invoke the methods provided by Math object such as abs(), ceil(), etc. to perform various mathematical operations on multiple variables.

**Website.html code as described/written in the video**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
</head>
<body>
    <div class="container">
        <h1 id="heading" class='yourhead rhia is'> Welcome to Code With Harry</h1>
        <div id="myfirst" class="child red good" id="first">child 1

            <ul class="this" id='myul'>
                <li class="childul" id='fui'>this</li>
                <li class="childul">is</li>
                <li class="childul">a</li>
                <li class="childul">list </li>
                <li class="childul" id='lui'>of my dreams</li>
        </div>
        <div class="child">child 2</div>
        <div class="child red">child 3</div>
        <div class="child">child 4</div>
        <form action="none.html" method="post">
            <a href="//codewithharry.com">Go to Code With Harry</a>
            <br>
            <br>
            Search this website: <input type="text" name="Hello" id="">
            <button id="btn">Submit form</button>
            <!-- <input type="button" id='btn' value="submit"> -->
        </form>
    </div>
    <br>
    <div class="no">this is a dummy div1</div>
    <div class="no">this is a dummy div2</div>
    <div class="no">this is a dummy div3</div>
</body>
```

```
<!-- <script src="js/tut12.js"></script> -->
<!-- <script src="js/tut14.js"></script> -->
<!-- <script src="js/tut15.js"></script> -->
<!-- <script src="js/tut16.js"></script> -->
<!-- <script src="js/tut17.js"></script> -->
<!-- <script src="js/tut18.js"></script> -->
<!-- <script src="js/tut20.js"></script> -->
<!-- <script src="js/tut21.js"></script> -->
<script src="js/tut23.js"></script>
</html>
```

**JavaScript code as described/written in the video**

```
console.log("Welcome to tutorial 24");

let today = new Date();
// console.log(typeof today);
let otherDate = new Date('8-4-2003 04:54:08');
// otherDate = new Date('June 13 1976');
// otherDate = new Date('09/16/1976');
console.log(otherDate);
let a;
a = otherDate.getDay();
a = otherDate.getDate();
a = otherDate.getMinutes();
// a = otherDate.getSeconds();
// a = otherDate.getHours();
a = otherDate.getTime();
a = otherDate.getMilliseconds();
a = otherDate.getMonth();
console.log(a);
otherDate.setDate(23);
otherDate.setMonth(0);
otherDate.setFullYear(1900);
otherDate.setMinutes(2);
otherDate.setHours(1);
otherDate.setSeconds(3);
console.log(otherDate);
```

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