

I'm not a robot



value.Math.asin()It is used to return the trigonometric Arc Sine value of a Given double value.Math.acos()It is used to return the trigonometric Arc Cosine value of a Given double value.Math.atan()It is used to return the trigonometric Arc Tangent value of a Given double value.Hyperbolic Math MethodsMethodDescriptionMath.sinh()It is used to return the trigonometric Hyperbolic Cosine value of a Given double value.Math.cosh()It is used to return the trigonometric Hyperbolic Sine value of a Given double value.Math.tanh()It is used to return the trigonometric Hyperbolic Tangent value of a Given double value.Angular Math MethodsMethodDescriptionMath.toDegreesIt is used to convert the specified Radians angle to equivalent angle measured in Degrees.Math.toRadiansIt is used to convert the specified Degrees angle to equivalent angle measured in Radians.Java Math Example 2JavaMathExample1.javapublic class JavaMathExample1 { public static void main(String[] args) { double x = 28; double y = 4; // return the maximum of two numbers System.out.println("Maximum number of x and y is: " + Math.max(x, y)); // return the square root of y System.out.println("Square root of y is: " + Math.sqrt(y)); //returns 28 power of 4 i.e. 28^28^28^28 System.out.println("Power of x and y is: " + Math.pow(x, y)); // return the logarithm of given value System.out.println("Logarithm of x is: " + Math.log(x)); System.out.println("Logarithm of y is: " + Math.log(y)); // return the logarithm of given value when base is 10 System.out.println("log10 of x is: " + Math.log10(x)); System.out.println("log10 of y is: " + Math.log10(y)); // return the log of x + 1 System.out.println("log1p of x is: " +Math.log1p(x)); // return a power of 2 System.out.println("exp of a is: " +Math.exp(x)); // return (a power of 2)-1 System.out.println("expm1 of a is: " +Math.expm1(x)); } } Output: Maximum number of x and y is: 28.0 Square root of y is: 2.0 Power of x and y is: 614656.0 Logarithm of x is: 3.332204510175204 Logarithm of y is: 1.3862943611198906 log10 of x is: 1.4471580313422192 log10 of y is: 0.6020599913279624 log1p of x is: 3.367295829986474 exp of a is: 1.446257064291475E12 expm1 of a is: 1.446257064290475E12 Java Math Example 3JavaMathExample2.javapublic class JavaMathExample2 { public static void main(String[] args) { double a = 30; // converting values to radian double b = Math.toRadians(a); // return the trigonometric sine of a System.out.println("Sine value of a is: " + Math.sin(a)); // return the trigonometric cosine value of a System.out.println("Cosine value of a is: " + Math.cos(a)); // return the trigonometric tangent value of a System.out.println("Tangent value of a is: " + Math.tan(a)); // return the trigonometric arc sine of a System.out.println("Sine value of a is: " +Math.asin(a)); // return the trigonometric arc cosine value of a System.out.println("Cosine value of a is: " +Math.acos(a)); // return the trigonometric arc tangent value of a System.out.println("Tangent value of a is: " +Math.atan(a)); // return the hyperbolic sine of a System.out.println("Sine value of a is: " +Math.sinh(a)); // return the hyperbolic cosine value of a System.out.println("Cosine value of a is: " +Math.cosh(a)); // return the hyperbolic tangent value of a System.out.println("Tangent value of a is: " +Math.tanh(a)); } } Output: Sine value of a is: -0.9880316240928618 Cosine value of a is: 0.15425144988758405 Tangent value of a is: -6.405331196646276 Sine value of a is: NaN Cosine value of a is: NaN Tangent value of a is: 1.5374753309166493 Sine value of a is: 5.343237290762231E12 Cosine value of a is: 5.343237290762231E12 Tangent value of a is: 1.0 Java Math Example 4Filename: MathDemo.java// Java program for demonstrating the features and functionalities of Java Math class with methods. public class MathDemo { public static void main(String[] args) { double x = 28; double y = 4; // Basic arithmetic operations System.out.println("Addition: " + (x + y)); System.out.println("Subtraction: " + (x - y)); System.out.println("Multiplication: " + (x * y)); System.out.println("Division: " + (x / y)); // Square root System.out.println("Square root of " + x + ": " + Math.sqrt(x)); // Cube root System.out.println("Cube root of " + x + ": " + Math.cbrt(x)); // Power System.out.println("Power of " + x + " to " + y + ": " + Math.pow(x, y)); // Trigonometric functions double angle = 45.0; double radian = Math.toRadians(angle); System.out.println("Sine of " + angle + " degrees: " + Math.sin(radian)); System.out.println("Cosine of " + angle + " degrees: " + Math.cos(radian)); System.out.println("Tangent of " + angle + " degrees: " + Math.tan(radian)); // Rounding double value = -123.456; System.out.println("Absolute value of " + value + ": " + Math.abs(value)); System.out.println("Ceil value of " + value + ": " + Math.ceil(value)); System.out.println("Floor value of " + value + ": " + Math.floor(value)); System.out.println("Round value of " + value + ", " + Math.round(value)); // Random numbers System.out.println("Random number between 0.0 and 1.0: " + Math.random()); System.out.println("Random number between 0 and 100: " + (int) (Math.random() * 100)); // Maximum and minimum double[] numbers = {10.5, 20.7, 5.2, 30.9}; System.out.println("Maximum value: " + Math.max(numbers[0], Math.max(numbers[1], Math.max(numbers[2], numbers[3]))); System.out.println("Minimum value: " + Math.min(numbers[0], Math.min(numbers[1], Math.min(numbers[2], numbers[3]))); // Exponential and logarithmic functions System.out.println("e^x = " + x + ", " + Math.exp(x)); System.out.println("Logarithm base 10 of " + x + ": " + Math.log10(x)); System.out.println("Logarithm base e of " + x + ": " + Math.log(x)); // Hypotenuse double side1 = 3.0; double side2 = 4.0; System.out.println("Hypotenuse of a right triangle with sides " + side1 + " and " + side2 + ": " + Math.hypot(side1, side2)); // Trigonometric functions (inverse) double sinValue = 0.5; System.out.println("Arcsine of " + sinValue + ": " + Math.toDegrees(Math.asin(sinValue))); System.out.println("Arccosine of " + sinValue + ": " + Math.toDegrees(Math.acos(sinValue))); System.out.println("Arctangent of " + sinValue + ": " + Math.toDegrees(Math.atan(sinValue))); // Constants System.out.println("Value of Pi: " + Math.PI); System.out.println("Value of E: " + Math.E); } } Output: Addition: 32.0 Subtraction: 24.0 Multiplication: 112.0 Division: 7.0 Square root of 28.0: 5.291502622129181 Cube root of 28.0: 3.0365889718756627 Power of 28.0 to 4.0: 614656.0 Sine of 45.0 degrees: 0.7071067811865475 Cosine of 45.0 degrees: 0.7071067811865476 Tangent of 45.0 degrees: 0.9999999999999999 Absolute value of -123.456: 123.456 Ceil value of -123.456: -123.0 Floor value of -123.456: -124.0 Round value of -123.456: -123 Random number between 0.0 and 1.0: 0.40493356810101455 Random number between 0 and 100: 61 Maximum value: 30.9 Minimum value: 5.2 e^28.0: 1.446257064291475E12 Logarithm base 10 of 28.0: 1.4471580313422192 Logarithm base e of 28.0: 3.332204510175204 Hypotenuse of a right triangle with sides 3.0 and 4.0: 5.0 Arcsine of 0.5: 30.000000000000004 Arccosine of 0.5: 60.00000000000001 Arctangent of 0.5: 26.56505117707799 Value of Pi: 3.141592653589793 Value of E: 2.718281828459045 Additionally, the Math class offers methods for calculating exponential and logarithmic functions. For example, Math.exp() can calculate the value of e raised to a power, while Math.log() can calculate the natural logarithm of a number. These functions are essential for many mathematical and scientific calculations.In conclusion, the Math class in Java provides a comprehensive set of mathematical functions that are essential for many programming tasks. Whether you need to perform basic arithmetic, work with trigonometry, or calculate exponential functions, the Math class has you covered. Its wide range of methods makes it a powerful tool for developers working on a variety of mathematical problems.Next TopicWrapper class in Java