**Math Functions in Java**

**Math functions are available in java.lang package. Package lang is a default package and there is no need to import.**

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| **Functions** | **Use Case** | **Example** | | **Output** |
| pow(x,y) | Xy | Math.pow(5,2); | | 52 = 25 |
| sqrt(x) | √X | Math.sqrt(36); | | √36 = 6 |
| ceil(x) | Round up to next | Math.ceil(312.34); | | 313 |
| floor(x) | Round down to low | Math.floor(45.81); | | 45 |
| rint(x) | Round of as per Mathematical rule. | Math.rint(91.56);  Math.rint(91.11); | | 92  91 |
| abs(x) | Absolute value or Modulus value. It Helps to make a number +ve. | Math.abs(-30); | | 30 |
| max(x,y) | Greater value between x & y. | Math.max(5.6,7.2); | | 7.2 |
| min(x,y) | Smaller value between x & y. | Math.min(8.26, 23.4); | | 8.26 |
| exp(x) | ex | Math.exp(5); | | |
| log(x) | Logarithm of x. | Math.log(451); | | |
| sin(x) | Sin value of x. | Math.sin(45); | | |
| cos(x) | Cos value of x. | Math.cos(5); | | |
| tan(x) | Tan value of x. | Math.tan(45); | | |
|  | | | | |
| random() | Return random number with double value in the interval from 0 to 1.  It includes 0 but not 1. [0,1)  [square bracket represents the inclusion of the number and ) bracket represents that the number does not included. | **Case 1:**  Math.random(); | 0.536789154  It’s a random value | |
| **Case 2:** Math.random()\*7; = [0,7)  Minimum value is 0 and maximum value is 6.99 | | | | |
| **Case 3:** Math.random()+2 = [2,3)  Minimum value is 2 and maximum value is 2.99 | | | | |
| **Case 4:** 10 + Math.random()\*5 = [10, 15)  Minimum value is 0 and maximum value is 14.99 | | | | |
| **Case 5:** (int)(Math.random()) gives int number not float or double.  Also, we can typecast int to any of the above Math.random(); function’s cases. | | | | |