Math class

Math.sin()

Math.cos()

Math.tan()

Math.abs() = returns positive

Math.min() = returns minimum

Math.max() = returns maximum

Math.floor() = round down

Math.ceil() = round up

Math.round() = round off

Math.sqrt() = square root

Math.cbrt() = cube root

Math.pow() = exponent

Math.random() = randomize numbers from 0 to <1

Math.PI = 3.141592653589793

```
x=Math.sin(30);
System.out.print(x);
```

0.5

```
x = Math.cos(90);
System.out.print(x);
```

0

```
x = Math.tan(45);
System.out.print(x);
```

1

```
x = Math.abs(-10)
System.out.print(x);
```

10

```
x = Math.min(50, 10);
System.out.print(x);
```

10

```
x = Math.max(50, 10);
System.out.print(x);
```

50

```
x = Math.floor(5.9);
System.out.print(x);
```

5

```
x = Math.ceil(5.1);
System.out.print(x);
```

6

```
x = Math.round(5.7);      |x = Math.round(5.4);
System.out.print(x);      |System.out.print(x);
```

6 |5

```
x = Math.sqrt(9);
System.out.print(x);
```

3

```
x = Math.cbrt(8);
System.out.print(x);
```

2

```
x = Math.pow(3,2);
```

System.out.print(x);

9

formula for random numbers

min + Math.random() * (max-min+1)

random numbers from 1 to 10

// x = 1 + Math.random() * (10-1+1)

x = 1 + Math.random() * (10)

System.out.print(x);

3.34523452345 OR 5.565432334 OR 10.23456787654

CASTING

Casting forcing or storing a value of another data type into another data type

double in int OR int in double

implicit, widening, happens automatically

int x = 34;

double y = x;

System.out.print(y);

34.0

explicit, narrowing, don't happen automatically

double x = 34.345;

int y = (int)(x);

System.out.print(y);

34

double x = Math.PI;

System.out.print(x);

3.141592653589793