Math Library: Complete Modules, Functions & Examples

This document contains a comprehensive list of functions from the Math library with syntax examples.

Function: ceil(x)

```
import math

print(math.ceil(4.3))  # Round up to 5
```

Function: floor(x)

```
import math

print(math.floor(4.9))  # Round down to 4
```

Function: trunc(x)

```
import math

print(math.trunc(4.999))  # Truncate to 4
```

Function: fabs(x)

```
import math

print(math.fabs(-5.5))  # Absolute value 5.5
```

Function: factorial(x)

```
import math

print(math.factorial(5))  # 5! = 120
```

Function: exp(x)

```
import math

print(math.exp(2))  # e^2
```

Function: log(x)

```python
import math

print(math.log(10))  # Natural log
```

Function: log10(x)

```python
import math

print(math.log10(100))  # Log base 10
```

Function: log2(x)

```python
import math

print(math.log2(8))  # Log base 2
```

Function: pow(x, y)

```python
import math

print(math.pow(2, 3))  # 2^3 = 8
```

Function: sqrt(x)

```python
import math

print(math.sqrt(16))  # Square root of 16
```

Function: sin(x)

```python
import math

print(math.sin(math.pi / 2))  # Sine of 90 degrees
```

Function: cos(x)

```python
import math

print(math.cos(0))  # Cosine of 0 degrees
```

Function: tan(x)

```python
import math

print(math.tan(math.pi / 4))  # Tangent of 45 degrees
```

Function: asin(x)

```
import math

print(math.asin(1))  # Inverse sine
```

Function: acos(x)

```
import math

print(math.acos(0))  # Inverse cosine
```

Function: atan(x)

```
import math

print(math.atan(1))  # Inverse tangent
```

Function: sinh(x)

```
import math

print(math.sinh(1))  # Hyperbolic sine
```

Function: cosh(x)

```
import math

print(math.cosh(1))  # Hyperbolic cosine
```

Function: tanh(x)

```
import math

print(math.tanh(1))  # Hyperbolic tangent
```

Function: pi

```
import math

print(math.pi)  # 3.141592653589793
```

Function: e

```
import math
```

```
print(math.e)  # 2.718281828459045
```

Function: tau

```
import math

print(math.tau)  # 6.283185307179586
```

Function: inf

```
import math

print(math.inf)  # Infinity
```

Function: nan

```
import math

print(math.nan)  # Not a number
```

Function: gcd(x, y)

```
import math

print(math.gcd(48, 18))  # Greatest common divisor
```

Function: isfinite(x)

```
import math

print(math.isfinite(5))  # True if finite
```

Function: isinf(x)

```
import math

print(math.isinf(math.inf))  # True if infinite
```

Function: isnan(x)

```
import math

print(math.isnan(math.nan))  # True if NaN
```

Function: degrees(x)

```
import math

print(math.degrees(math.pi))  # Convert radians to degrees
```

Function: radians(x)

```
import math

print(math.radians(180))  # Convert degrees to radians
```

```
import math

print(math.degrees(math.pi))  # Convert radians to degrees
```

Function: radians(x)