

Math Operations

<code>a = 3</code>	
<code>b = 4</code>	
<code>a + b</code>	Sum <i>a</i> and <i>b</i> (7)
<code>a - b</code>	Subtract <i>b</i> from <i>a</i> (-1)
<code>a * b</code>	<i>a</i> times <i>b</i> (12)
<code>a / b</code>	<i>a</i> divided by <i>b</i> (0.75)
<code>a // b</code>	Integer part of <i>a</i> divided by <i>b</i> (0)
<code>a % b</code>	Rest of <i>a</i> divided by <i>b</i> (3)
<code>a ** b</code>	<i>a</i> to the power of <i>b</i> (81)

Logic Tests

<code>5 > 3</code>	Tests if 5 is greater than 3 (True)
<code>5 >= 3</code>	Tests if 5 is greater than or equal to 3 (True)
<code>5 == 3</code>	Tests if 5 is equal to 3 (False)
<code>5 != 3</code>	Tests if 5 is different than 3 (True)
<code>5 <= 3</code>	Tests if 5 is lower than or equal to 3 (False)
<code>5 < 3</code>	Tests if 5 is lower than 3 (False)
<code>not True</code>	Opposite of True (False)

Math Module

<code>import math</code>	Imports module <i>math</i>
<code>math.ceil(x)</code>	Rounds <i>x</i> up
<code>math.floor(x)</code>	Rounds <i>x</i> down
<code>round(x)¹</code>	Rounds <i>x</i> with 0 decimal places
<code>round(x, 2)</code>	Rounds <i>x</i> with 2 decimal places
<code>math.sqrt(x)</code>	Square root of <i>x</i>
<code>math.sin(angle)</code>	Sine of <i>angle</i>
<code>math.cos(angle)</code>	Cosine of <i>angle</i>
<code>math.tan(angle)</code>	Tangent of <i>angle</i>
<code>math.sinh(x)</code>	Hiperbolic sine of <i>x</i>
<code>math.cosh(x)</code>	Hiperbolic cosine of <i>x</i>
<code>math.tanh(x)</code>	Hiperbolic tangent of <i>x</i>
<code>math.asin(angle)</code>	Arc sine of <i>angle</i>
<code>math.acos(angle)</code>	Arc cosine of <i>angle</i>

Math Module (cont)

<code>math.atan(angle)</code>	Arc tangent of <i>angle</i>
<code>math.asinh(x)</code>	Inverse hiperbolic sine of <i>x</i>
<code>math.acosh(x)</code>	Inverse hiperbolic cosine of <i>x</i>
<code>math.atanh(x)</code>	Inverse hiperbolic tangent of <i>x</i>
<code>math.degrees(angle)</code>	Covert <i>rad_angle</i> from radians to degrees
<code>math.radians(angle)</code>	Covert <i>rad_angle</i> from degrees to radians
<code>math.factorial(x)</code>	Factorial of <i>x</i>
<code>math.gamma(x)</code>	Gamma function of <i>x</i>
<code>math.exp(x)</code>	<i>e</i> to the power of <i>x</i>
<code>math.log(x)</code>	Natural logarithm of <i>x</i>
<code>math.log(x, 2)</code>	Base 2 logarithm of <i>x</i>
<code>math.e</code>	Constant <i>e</i>
<code>math.pi</code>	Constant <i>pi</i>

- 1 `round` is not part of the *math* module
- 2 the python standard is to work with angles in radians

Second Degree Equation Roots

```
# This script solves ax^2 + bx + c = 0
import math
a = 1
b = -1
c = -6
delta = b*2 - 4a*c
r1 = (-b + math.sqrt(delta))/(2*a)
r2 = (-b - math.sqrt(delta))/(2*a)
print(f"r1 = {r1}")
print(f"r2 = {r2}")
```

```
r1 = 3.0
r2 = -2.0
```



Triangle Angles

```
# Calculates the angles of a triangle based on its sides.
```

```
import math
```

```
side1, side2, side3 = 3, 4, 5
```

```
angle1 = math.atan(side2/side1)
```

```
angle2 = math.acos(side2/side3)
```

```
print(f"angle 1 = {math.degrees(angle1)}")
```

```
print(f"angle 2 = {math.degrees(angle2)}")
```

```
angle 1 = 53.13010235415598
```

```
angle 2 = 36.86989764584401
```

C

By **Mario** (mariofreitas)
cheatography.com/mariofreitas/
github.com/MarioRaul/

Not published yet.
Last updated 22nd October, 2017.
Page 2 of 2.

Sponsored by **Readability-Score.com**
Measure your website readability!
<https://readability-score.com>