

Why do you need Expressions?

Problem	Solution in Human World	Solution in Computer World
Problem description	Algebraic Equations	Expressions Literals Variables Operators Evaluation Order

Literals & Variables in python

Data in Human World	How do you express in python?
Positive & Negative Whole Numbers	int
Decimal Numbers	float
True or False values	bool
Single character values	str
Character group values	str

Arithmetic Operators in python

Operations in Human World	How do you express in python?
Addition	+
Subtraction	-
Multiplication	*
Division	/ or //
Modulus or Remainder	%
Exponent	**

Evaluation of Expression in python

Equation in Human World	Expression in python
$x * 2 + y * 3 - z ** 6$	<code>x * 2 + y * 3 - z ** 6</code>

Math Operators from Highest to Lowest Precedence

Operator	Operation	Example	Evaluates to...
<code>**</code>	Exponent	<code>2 ** 3</code>	8
<code>%</code>	Modulus/remainder	<code>22 % 8</code>	6
<code>//</code>	Integer division/floored quotient	<code>22 // 8</code>	2
<code>/</code>	Division	<code>22 / 8</code>	2.75
<code>*</code>	Multiplication	<code>3 * 5</code>	15
<code>-</code>	Subtraction	<code>5 - 2</code>	3
<code>+</code>	Addition	<code>2 + 2</code>	4