Addition:

Subtraction:

Multiplication

Division

Exponents

Logarithm

Exponents and why we care:

We don’t care about multiplication, because its commutative.

Does the input size affect the base or the exponent? This is important because:

If input size = n

|  |  |  |  |
| --- | --- | --- | --- |
| C | N |  |  |
| 2 | 100 |  |  |
| 2 | 10,000 |  |  |

It is always better to have than . Polynomials, , grow slower than exponential equations, .

The formal definition of Big-O

A function, is Big-O if there exists some and

such that for all values of

Check:

Certain types of functions fall into different groups:

Polynomials fall into groups based on their highest exponent.