Test file

Theorem: Binomial Expansion

Let $a, b \in \mathbb{R}$, and $n \in \mathbb{N}$.

$$\forall a, b \in \mathbb{R}, n \in \mathbb{N} : (a+b)^n = \sum_{k=0}^{n} a^k b^{n-k} \binom{n}{k}$$

Theorem: Pythagorean

Let there be a right triangle in Eucledean space with perpendicular side lengths a and b and a hypotenuse of length c,

then:

$$a^2 + b^2 = c^2$$

Definition: Matrix Exponential

(The exponential function is redefined as its Taylor Series for a matrix)

Let M be a matrix of size $n \times n, n \in \mathbb{N}$

Then:

$$\forall M \in M_n(\mathbb{R}) : \exp(M) = \sum_{n=0}^{+\infty} \frac{M^n}{n!}$$