Theorem For all $n \in \mathbb{N}$:

$$\sum_{i=0}^{n} i = \frac{n(n+1)}{2}$$

Theorem For all $n \in \mathbb{N}$:

$$\sum_{i=0}^{n} i^2 = \frac{n(n+1)(2n+1)}{6}$$

Theorem (Divergence theorem) For any volume V and continuously differentiable vector field $\mathbf{F}$:

$$\iiint_V \nabla \cdot \mathbf{F} \, \mathrm{d}V = \oiint_{\partial V} \mathbf{F} \cdot \mathrm{d}\mathbf{S}$$

where ∂V is the border of V.

Definition (Fibonacci sequence) Let u_n be the sequence defined by:

$$\begin{cases} u_0 &= 1 \\ u_1 &= 1 \\ u_{n+2} &= u_{n+1} + u_n, \ \forall n \in \mathbb{N} \end{cases}$$

Theorem For all $n \in \mathbb{N}$:

$$u_n = \frac{\varphi^n - \psi^n}{\varphi - \psi}$$

where φ and ψ are the roots of $x^2 - x - 1$.