Newton's Binomial:

$$(x+a)^n = \sum_{k=0}^{n} \binom{n}{k} x^k a^{n-k}$$

Quadratic Equation's Root:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Sum Factorization:

$$(1+x)^n = 1 + \frac{nx}{1!} + \frac{n(n-1)x^2}{2!} + \cdots$$

Taylor series:

$$e^x = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \cdots, \qquad -\infty < x < \infty$$

Fourier series:

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cos\frac{n\pi x}{L} + b_n \sin\frac{n\pi x}{L} \right)$$

Sum-to-product identities:

$$\sin\alpha \pm \sin\beta = 2\sin\frac{1}{2}(\alpha \pm \beta)\cos\frac{1}{2}(\alpha \mp \beta)$$

Navier-Stokes equation (incompressible flow):

$$\rho\left(\frac{\partial \mathrm{v}}{\partial t}\right) + \mathrm{v}\cdot\nabla\mathrm{v} = -\nabla p + \mu\nabla^2\mathrm{v} + \mathrm{f}$$

Ostrogradsky–Gauss theorem:

$$\iiint_V \operatorname{div}\mathrm{F}\ dV = \oiint_S \mathrm{F}\cdot\mathbf{n}\ dS$$

End of test.