Math

Euler's Formula

$$e^{\imath x} = \cos x + \imath \sin x$$

where $\imath \equiv \sqrt{-1}$. $x = \pi$ gives following beautiful identity

$$e^{\imath \pi} + 1 = 0$$

Theorem (Cauchy Integral)

If $f(z)$ is analytic in some simply connected region R, then

$$\oint_\gamma f(z)\, dz = 0$$

for any closed contour γ completely contained in R.