- **530 BCE - Pythagorean Theorem:**

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

- **250 BCE - Area of a Circle:**

$$A = \pi r^2$$

- **100 - Heron's Law:**

$$A = \sqrt{s(s-a)(s-b)(s-c)}$$

- **628 - Quadratic Formula:**

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

- **1604 - Galileo's Equation of Motion:**

$$s = ut + \frac{1}{2}at^2$$

- **1621 - Snell's Law:**

$$n_1 \sin\theta_1 = n_2 \sin\theta_2$$

- **1668 - Fundamental Theorem of Calculus:**

$$\frac{d}{dx}\int_0^x f(t)dt = f(x)$$

- **1687 - Newton's First Law of Motion:**

$$\mathbf{F} = m\mathbf{a}$$

- **1687 - Universal Law of Gravitation:**

$$\mathbf{F} = G\frac{m_1 m_2}{r^2}\hat{\mathbf{r}}$$

- **1737 - Euler product formula for the Riemann zeta function:**

$$\sum_{n=1}^{\infty} \frac{1}{n^s} = \prod_{p} \left(1 - \frac{1}{p^s}\right)^{-1}$$

- **1738 - Bernoulli's Equation:**

$$P + \frac{1}{2}\rho v^2 + \rho g h = \mathrm{k}$$

- **1746 - D'Alembert's Wave Equation:**

$$\frac{\partial^2 u}{\partial t^2} = c^2 \frac{\partial^2 u}{\partial x^2}$$

- **1748 - Euler's Identity**

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

- **1751 - Euler's Law for Polyhedra:**

$$V - E + F = 2$$

- **1763 - Bayes' Theorem:**

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}$$

- **1785 - Coulomb's Law:**

$$\mathbf{F} = k\frac{q_1 q_2}{r^2}\hat{\mathbf{r}}$$

- **1810 - Normal Distribution:**

$$f(x) = \frac{1}{\sqrt{2\pi\sigma^2}}e^{-\frac{(x-\mu)^2}{2\sigma^2}}$$

- **1822 - Fourier Transform:**

$$F(\omega) = \int_{-\infty}^{\infty} f(t)e^{-i\omega t}\,dt$$

- **1827 - Ohm's Law:**

$$V = IR$$

- **1845 - Navier-Stokes Equation:**

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

- **1852 -Beer-Lambert Law for light streaming through a tree canopy:**

$$I = I_0(1 - e^{-\frac{GL}{\cos\theta_s}})$$

- **1861 - Maxwell's Equations:**

$$\nabla \cdot \mathbf{E} = \frac{\rho}{\epsilon_0},$$
$$\nabla \cdot \mathbf{B} = 0,$$
$$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t},$$
$$\nabla \times \mathbf{B} = \mu_0 \mathbf{J} + \mu_0 \epsilon_0 \frac{\partial \mathbf{E}}{\partial t}$$

- **1900 - Planck's Law:**

$$B(\lambda, T) = \frac{2hc^2}{\lambda^5} \frac{1}{e^{\frac{hc}{\lambda k_B T}} - 1}$$

- **1905 - Einstein Special Relativity**

$$E = mc^2$$

- **1915 - Einstein General Relativity:**

$$G_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}$$

- **1926 - Schrödinger's Equation:**

$$i\hbar \frac{\partial \Psi}{\partial t} = -\frac{\hbar^2}{2m} \nabla^2 \Psi + V\Psi$$

- **1928 - Dirac Equation:**

$$(i\gamma^\mu \partial_\mu - m)\psi = 0$$

- **1949 - Shannon Information Theory:**

$$H(X) = -\sum_{x \in \mathcal{X}} p(x) \log p(x)$$

- **1971 - Cook's Computational Complexity Hypothesis:**

$$\mathrm{P} \neq \mathrm{NP}$$

- **1973 - Black-Scholes Equation:**

$$\frac{\partial V}{\partial t} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} + rS\frac{\partial V}{\partial S} - rV = 0$$

- **1974 - Werbos' Backpropagation Equation:**

$$\frac{\partial E}{\partial w_{ij}} = \delta_j o_i$$

- **1993 - Goldberg's Completeness of Robot Manipulation:**

$$\int_0^T [s(\theta + h) - s(\theta) - h] d\theta = 0$$

- **1996 - Internet PageRank Algorithm:**

$$PR(u) = \sum_{v \in B_u} \frac{PR(v)}{L(v)}$$

- **2003 - Latent Dirichlet Allocation (LDA):**

$$P(w_d|\theta_d, \beta) = \sum_z P(w_d|z, \beta) P(z|\theta_d)$$

- **2016 - Gravitational Waveforms (LIGO):**

$$h_{ab}(t) = \int_{-\infty}^{\infty} \frac{1}{r} \frac{\partial^2}{\partial t^2} (I_{ab}(t - \frac{r}{c})) \, dt$$

- **2017 - AI Transformer Equation:**

$$\mathrm{A}(Q, K, V) = \sigma(\frac{QK^T}{\sqrt{d_k}})V$$