

# Eight Math Wonders

## ENERGY AND MASS

$$E = mc^2$$

## INFORMATION ENTROPY

$$H = - \sum p_k \log p_k$$

## FORCE AND ACCELERATION

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

## MAXWELL'S EQUATIONS

$$\begin{aligned} \nabla \cdot \mathbf{D} &= \rho & \nabla \times \mathbf{E} &= -\frac{\partial \mathbf{B}}{\partial t} \\ \nabla \cdot \mathbf{B} &= 0 & \nabla \times \mathbf{H} &= \mathbf{J} + \frac{\partial \mathbf{D}}{\partial t} \end{aligned}$$

## GRAVITATIONAL FORCE

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

## SCHRÖDINGER EQUATION

$$i\hbar \frac{\partial}{\partial t} \Psi(\mathbf{r}, t) = \hat{H} \Psi(\mathbf{r}, t)$$

## BLACK HOLE ENTROPY

$$S = \frac{kc^3 A}{4\hbar G}$$

## EULER FORMULA

$$e^{i\pi} = -1$$