

## 数学公式的输入

$$1) \sin(\theta + \varphi) = \sin \theta \cos \varphi + \cos \theta \sin \varphi ;$$

$$2) \frac{1}{2} - \frac{1}{3} = \frac{1}{2 \cdot 3};$$

$$3) 2^{2^2} + 1 = 17;$$

$$4) \sum_{i=1}^n i^2 = \frac{n(n+1)(2n+1)}{6};$$

$$5) |A \cup B| = |A| + |B| - |A \cap B|;$$

$$6) S_{\Delta ABC} = \sqrt{s(s-a)(s-b)(s-c)};$$

$$7); 1 + \left(\frac{1}{2}\right) + \left(\frac{1}{2}\right)^2 + \cdots + \left(\frac{1}{2}\right)^{n-1} = \frac{1 - \left(\frac{1}{2}\right)^n}{1 - \frac{1}{2}};$$

$$8) |\vec{a} + \vec{b}|^2 + |\vec{a} - \vec{b}|^2 = 2(|\vec{a}|^2 + |\vec{b}|^2);$$

$$9) \det \begin{pmatrix} 1 & 1 & \cdots & 1 \\ a_1 & a_2 & \cdots & a_n \\ a_1^2 & a_2^2 & \cdots & a_n^2 \\ \vdots & \vdots & \cdots & \vdots \\ a_1^{n-1} & a_2^{n-1} & \cdots & a_n^{n-1} \end{pmatrix} = \prod_{1 \leq i < j \leq n} (a_j - a_i);$$

$$10) \begin{cases} 2x + y = 1 \\ x + 2y = 1 \end{cases}.$$