

$$(15) \quad \int \sqrt{ax^2 + c} dx = \frac{x}{2} \sqrt{ax^2 + c} + \frac{c}{2\sqrt{a}} \ln(\sqrt{a}x + \sqrt{ax^2 + c}) \quad (a > 0)$$

$$\int \sqrt{ax^2 + c} dx = \frac{x}{2} \sqrt{ax^2 + c} + \frac{c}{2\sqrt{-a}} \arcsin\left(\sqrt{\frac{-a}{c}}x\right) \quad (a < 0)$$

$$(16) \quad \int_0^{\frac{\pi}{2}} \sin^n x dx = \begin{cases} \frac{(n-1)!!}{n!!} \frac{\pi}{2} & (n = \text{正偶数}) \\ \frac{(n-1)!!}{n!!} & (n = \text{正奇数}) \end{cases}$$

$$(17) \quad \int_0^{\infty} \frac{\sin ax}{x} dx = \begin{cases} \frac{\pi}{2} & (a > 0) \\ -\frac{\pi}{2} & (a < 0) \end{cases}$$