

нии формул:

$$\text{I. } \int \frac{dx}{a^2 + x^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C \quad (a \neq 0).$$

$$\text{II. } \int \frac{dx}{a^2 - x^2} = \frac{1}{2a} \ln \left| \frac{a+x}{a-x} \right| + C \quad (a \neq 0).$$

$$\text{III. } \int \frac{x dx}{a^2 \pm x^2} = \pm \frac{1}{2} \ln |a^2 \pm x^2| + C.$$

$$\text{IV. } \int \frac{dx}{\sqrt{a^2 - x^2}} = \arcsin \frac{x}{a} + C \quad (a > 0).$$

$$\text{V. } \int \frac{dx}{\sqrt{x^2 \pm a^2}} = \ln |x + \sqrt{x^2 \pm a^2}| + C \quad (a > 0).$$

$$\text{VI. } \int \frac{x dx}{\sqrt{a^2 \pm x^2}} = \pm \sqrt{a^2 \pm x^2} + C \quad (a > 0).$$

$$\text{VII. } \int \sqrt{a^2 - x^2} dx = \frac{x}{2} \sqrt{a^2 - x^2} + \frac{a^2}{2} \arcsin \frac{x}{a} + C \quad (a > 0).$$

$$\text{VIII. } \int \sqrt{x^2 \pm a^2} dx = \frac{x}{2} \sqrt{x^2 \pm a^2} \pm \frac{a^2}{2} \ln |x + \sqrt{x^2 \pm a^2}| + C \quad (a \geq 0).$$

Найти интегралы:

$$1836. \int \frac{dx}{a + bx^2} \quad (ab \neq 0). \quad 1837. \int \frac{dx}{x^2 - x + 2}.$$

$$1838. \int \frac{dx}{3x^2 - 2x - 1}. \quad 1839. \int \frac{x dx}{x^4 - 2x^2 - 1}.$$

$$1840. \int \frac{(x+1)}{x^2 + x + 1} dx. \quad 1841. \int \frac{x dx}{x^2 - 2x \cos \alpha + 1}.$$

$$1842. \int \frac{x^2 dx}{x^4 - x^2 + 2}. \quad 1843. \int \frac{x^5 dx}{x^6 - x^3 - 2}.$$

$$1844. \int \frac{dx}{3 \sin^2 x - 8 \sin x \cos x + 5 \cos^2 x}.$$

$$1845. \int \frac{dx}{\sin x + 2 \cos x + 3}.$$

$$1846. \int \frac{dx}{\sqrt{a + bx^2}} \quad (b \neq 0).$$