нии формул:

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

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

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

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

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

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

VII. $\int \sqrt{a^2 - x^2}\,dx = \dfrac{x}{2} \sqrt{a^2 - x^2} +$

$$+ \dfrac{a^2}{2} \arcsin \dfrac{x}{a} + C \quad (a > 0).$$

VIII. $\int \sqrt{x^2 \pm a^2}\,dx = \dfrac{x}{2} \sqrt{x^2 \pm a^2} \pm$

$$\pm \dfrac{a^2}{2} \ln |x + \sqrt{x^2 \pm a^2}| + C \quad (a > 0).$$

Найти интегралы:

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

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

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

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

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

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

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