

Интегралы, содержащие  $a^4 \pm x^4$

$$170. \quad \int \frac{dx}{a^4 + x^4} = \frac{1}{4a^3 \sqrt{2}} \ln \frac{x^2 + ax\sqrt{2} + a^2}{x^2 - ax\sqrt{2} + a^2} + \frac{1}{2a^3 \sqrt{2}} \operatorname{arctg} \frac{ax\sqrt{2}}{a^2 - x^2}.$$

$$170.1. \quad \int \frac{x dx}{a^4 + x^4} = \frac{1}{2a^2} \operatorname{arctg} \frac{x^2}{a^2}.$$

$$170.2. \quad \int \frac{x^2 dx}{a^4 + x^4} = -\frac{1}{4a \sqrt{2}} \ln \frac{x^2 + ax\sqrt{2} + a^2}{x^2 - ax\sqrt{2} + a^2} + \frac{1}{2a \sqrt{2}} \operatorname{arctg} \frac{ax\sqrt{2}}{a^2 - x^2}.$$

$$170.3. \quad \int \frac{x^3 dx}{a^4 + x^4} = \frac{1}{4} \ln(a^4 + x^4).$$

$$171. \quad \int \frac{dx}{a^4 - x^4} = \frac{1}{4a^3} \ln \left| \frac{a+x}{a-x} \right| + \frac{1}{2a^3} \operatorname{arctg} \frac{x}{a}.$$

$$171.1. \quad \int \frac{x dx}{a^4 - x^4} = \frac{1}{4a^2} \ln \left| \frac{a^2 + x^2}{a^2 - x^2} \right|.$$

$$171.2. \quad \int \frac{x^2 dx}{a^4 - x^4} = \frac{1}{4a} \ln \left| \frac{a+x}{a-x} \right| - \frac{1}{2a} \operatorname{arctg} \frac{x}{a}.$$

$$171.3. \quad \int \frac{x^3 dx}{a^4 - x^4} = -\frac{1}{4} \ln |a^4 - x^4|.$$

$$173. \quad \int \frac{dx}{x(a + bx^m)} = \frac{1}{am} \ln \left| \frac{x^m}{a + bx^m} \right|.$$