

I. Пресметнете интегралите

1.  $\int \cos(ax+2)dx$ , 2.  $\int \frac{dx}{\sin^2(3x-a)}$ , 3.  $\int (ax+8)^6 dx$ , 4.  $\int \frac{dx}{ax+8}$ , 5.  $\int \operatorname{arctg}(ax)dx$

6.  $\int \left( ax^4 - \frac{1}{x} + \sqrt{x} \right) dx$ , 7.  $\int x \cos ax dx$ , 8.  $\int x^2 e^{ax} dx$ , 9.  $\int \ln(ax+2)dx$ , 10.  $\int x^3 \ln(ax)dx$

11.  $\int_1^e \frac{\ln x + a}{x} dx$ , 12.  $\int \frac{2ax-1}{ax^2-x+1} dx$ , 13.  $\int_0^{\pi/2} \frac{a \cos x}{1+\sin^2 x} dx$ , 14.  $\int_{-a}^a (2x-1)^4 dx$ , 15.  $\int_1^e ax \ln x dx$

16.  $\int_{-1}^0 \frac{x+a}{x^2+2x-3} dx$ , 17.  $\int_{-\pi}^{\pi} x \cos(ax) dx$ , 18.  $\int_0^1 \operatorname{arctg} x dx$ , 19.  $\int_0^{\pi/2} \frac{dx}{2 \sin x - \cos x + 2a}$ .