

ANL1

Całki, które w ostatnich latach pojawiły się na egzaminach w różnych kontekstach (jako całka nieoznaczona, oznaczona, niewłaściwa):

$$\int \frac{\sin^5(2\arctg x)}{x^2 + 1} dx, \quad \int x \cdot \ln(x^2 + 4) dx, \quad \int x \cdot \ln^2(2x) dx,$$

$$\int \ln(x^2 - 3x + 2) dx, \quad \int \frac{\sin(2x)}{\sqrt{9 - \sin^2 x}} dx, \quad \int x^{-3} \cdot e^{\frac{1}{x}} dx,$$

$$\int \frac{x}{\sqrt{(3-x)(x-1)}} dx, \quad \int \frac{10\arctg x}{(x+3)^2} dx, \quad \int x^3 \cdot \sqrt{4-x^2} dx,$$

$$\int \frac{\ln(2x)}{(x+1)^3} dx, \quad \int x \cdot \arctg\left(\frac{x+1}{x-1}\right) dx, \quad \int \frac{\sin x}{\sqrt{4\cos x - \cos^2 x}} dx,$$

$$\int \frac{1}{x \cdot (\ln^2 x - 2\ln x)} dx, \quad \int 2x \cdot \arctg(x-3) dx, \quad \int \frac{2\sqrt{x}}{(x-1)^2} dx,$$

$$\int \frac{1}{x \cdot \sqrt{\ln^2 x + 2\ln x + 3}} dx, \quad \int 4x \cdot \arctg^2(2x) dx, \quad \int \frac{e^{3x}}{1 + e^{2x}} dx,$$

$$\int \frac{\ln(x^3 + x)}{x^2} dx, \quad \int \frac{5x + 7}{\sqrt{5 - 4x - x^2}} dx, \quad \int \frac{2\arctg x}{(x+1)^2} dx,$$

$$\int \frac{\sin x \cos x}{\cos^2 x + \sin x + 1} dx, \quad \int \frac{1}{x \cdot \sqrt{\ln(x^2)}} dx, \quad \int \frac{\cos x}{\sin x \sqrt{1 + \cos^2 x}} dx,$$

$$\int \frac{\ln(x^2 + 1)}{(x+1)^2} dx, \quad \int \frac{x+1}{\sqrt{4-x^2}} dx, \quad \int \frac{\cos x}{4 + 3\sin x} dx,$$

$$\int \frac{\sqrt{x+7}}{x-2} dx, \quad \int \frac{\arctg\left(\frac{1}{x^2}\right)}{x^3} dx, \quad \int \cos x \cdot \sqrt{\sin^2 x + 2\sin x} dx,$$

$$\int \frac{\arcsin(3x) + 3}{\sqrt{1 - 9x^2}} dx, \quad \int e^{\sin^2 x} \sin 2x dx, \quad \int \arctg(x+2) dx,$$

$$\int \cos x \cdot (2\sin x + 1) \cdot \ln(\sin x) dx, \quad \int \frac{\sin 2x + \cos x}{\sqrt{5 - \sin^2 x}} dx, \quad \int \frac{\sqrt{x}}{x-1} dx,$$

$$\int \frac{\sin^3 x}{\sqrt{\cos x}} dx, \quad \int \frac{1}{3\sin x + 4\cos x} dx, \quad \int \frac{3\ln(x^2 + 2x + 3)}{x^2} dx,$$

$$\int \frac{2}{e^x - 2} dx, \quad \int \frac{\sin(4x)}{\sqrt{1 - 3\cos^2(2x)}} dx, \quad \int \frac{\operatorname{tg} x}{1 - \operatorname{ctg}^2 x} dx,$$

$$\int \ln\left(1 + \frac{2}{x}\right) dx, \quad \int \frac{2e^{2x}}{\sqrt{e^{2x} - 4e^x}} dx, \quad \int \frac{1}{\sqrt{(3-x)(x+1)}} dx,$$

$$\int \frac{\sin^3\left(\frac{1}{x^3}\right)}{x^4} dx, \quad \int \frac{7}{x \cdot (x - 4\sqrt{x} + 7)} dx, \quad \int \frac{e^{2x} - e^x}{\sqrt{9 - e^{2x}}} dx,$$

$$\int \frac{1}{\sqrt{2x-1} - \sqrt[3]{2x-1}} dx, \quad \int \sqrt{\frac{\cos^3 x}{\sin^7 x}} dx, \quad \int e^{5e^x+x} dx,$$

$$\int \frac{\sqrt{\operatorname{tg} x}}{\sin x \cos x} dx, \quad \int \frac{x-5}{\sqrt{x-2}} dx, \quad \int \frac{\operatorname{ctg} x}{\ln(\sin x)} dx.$$