Cvičenie 25.2.2003
Substitučná metóda, Metóda per partes

Substitučná metóda:

1. $\int (3x-11)^9 \, dx$ **2.** $\int x(a+bx)^n \, dx$, $b \neq 0$, $n \in N$ **3.** $\int \frac{x}{(a+bx)^n} dx$, $b \neq 0$, $n \in N$, $n \neq 1,2$

4. $\int \frac{x^2}{(a+bx)^n} dx$, $b \neq 0$, $n \in N$, $n \neq 1,2,3$ **5.** $\int \frac{dx}{9x^2+4}$ **6.** $\int \frac{dx}{x^2+5x+11}$ **7.** $\int \frac{dx}{\sqrt{x^2+4x+5}}$ **8.** $\int \frac{dx}{\sqrt{1-3x^2}}$

9. $\int \frac{dx}{(x-\sqrt{x^2-1})^2}$ **10.** $\int \frac{e^x}{4+e^x} dx$ **11.** $\int \frac{dx}{1+3^x}$ **12.** $\int \frac{dx}{\sqrt{2^x+1}}$ **13.** $\int \frac{\ln^4 x}{x} dx$ **14.** $\int \frac{\cos x}{\sin^2 x} dx$

15. $\int \frac{\sqrt[3]{\mathrm{tg}^2 x}}{\cos^2 x} dx$ **16.** $\int \frac{\sin x}{\sqrt{\cos^5 x}} dx$ **17.** $\int \frac{\sqrt[3]{\mathrm{tg}^2 x}}{\cos^2 x} dx$ **18.** $\int \frac{\sin 2x}{\sin^2 x+3} dx$ **19.** $\int \cos^2 x \, dx$ **20.** $\int \sin^2 x \, dx$

21. $\int \frac{dx}{\cos x}$ **22.** $\int \frac{dx}{\sin x}$ **23.** $\int \cos 3x \sin 4x \, dx$ **24.** $\int \sqrt{\frac{\arccos x}{1-x^2}} \, dx$ **25.** $\int \frac{x^2}{\sin x^3} dx$ **26.** $\int \frac{x-\mathrm{arctg}\, x}{1+x^2} dx$

27. $\int \frac{dx}{\cosh x}$ **28.** $\int \frac{dx}{\cosh^2 x}$ **29.** $\int \frac{dx}{\mathrm{tg}\, x \ln^2 \sin x}$

Metóda per partes:

30. $\int xe^{2x} dx$ **31.** $\int x \ln x \, dx$ **32.** $\int xa^x dx$ **33.** $\int \ln x \, dx$ **34.** $\int \arcsin x \, dx$ **35.** $\int \frac{dx}{(x^2+1)^n}$, $n \in N$

36. $\int e^{\arcsin x} \, dx$ **37.** $\int \sinh^2 x \, dx$ **38.** $\int \frac{xe^x}{(1+x)^2} dx$ **39.** $\int \frac{x \arcsin x}{\sqrt{1-x^2}} dx$ **40.** $\int e^{2x} \cos x \, dx$

41. $\int \sin x \ln(\mathrm{tg}\, x) \, dx$ **42.** $\int x \mathrm{tg}^2 x \, dx$ **43.** $\int \frac{\mathrm{arctg}\, e^x}{e^x} dx$ **44.** $\int \ln(x+\sqrt{1+x^2}) \, dx$ **45.** $\int \frac{e^{\mathrm{arctg}\, x}}{\sqrt{(1+x^2)^3}} dx$

46. $\int \arcsin \sqrt{\frac{x}{x+1}} \, dx$