

Matematyka IIA, Seria 3

(1 marca 2004 r.)

Obliczyć całki:

Zadanie 1

$$\int \frac{3x+1}{(x+2)^2} dx, \quad \int \frac{3x^2-5x+2}{x^3-2x^2+3x-6} dx, \quad \int \frac{1}{(x^2+x+1)^2} dx, \quad \int \frac{1}{x^4+x^2+1} dx.$$

Zadanie 2

$$\int \frac{x^2}{(x+2)^{1/3}} dx, \quad \int \frac{1+\sqrt{x}}{1-\sqrt{x}} dx, \quad \int \frac{1}{x^{1/2}+2x^{2/3}} dx, \quad \int \sqrt{\frac{1-x}{1+x}} \frac{dx}{x}.$$

Zadanie 3

$$\int \frac{dx}{\sqrt{2x-x^2}}, \quad \int \frac{dx}{\sqrt{x^2+3x+2}}, \quad \int \frac{5x+2}{\sqrt{2x^2+8x-1}} dx, \quad \int \sqrt{x^2-3x+2} dx.$$

Zadanie 4

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