

CALCULUL DIRECT AL INTEGRALELOR

DEFINITE CU LEIBNIZ-NEWTON

Calculati:

$$1) \int_1^2 \left(x^3 + 5^x + \frac{1}{x^2+4} + \frac{x}{\sqrt{x^2+4}} \right) dx$$

$$2) \int_{\pi/6}^{\pi/4} \left(\sin x + \frac{1}{\sin^2 x} + \operatorname{ctg} x + 3 \cos x \right) dx$$

$$3) \int_5^6 \left(\frac{\sqrt{y}}{\sqrt{x^2-4}} + \frac{3x}{\sqrt{x^2-9}} + \frac{1}{\sqrt{x^2+1}} + x^3 \right) dx$$

$$4) \int_1^2 \left(\frac{5x^4 + 8x}{x^5 + 4x^2 + 1} - 5x^3 + \frac{4}{\sqrt{x^2+1}} \right) dx$$

$$5) \int_0^1 \left((2x^4 + x^3 + 2)^5 (8x^3 + 3x^2) + 4 \right) dx$$

$$6) \int_{\pi/4}^{\pi/3} \left(\frac{4}{\cos^2 x} + \operatorname{tg} x - \cos x + \sin x \right) dx$$

$$7) \int_1^e \left(\frac{4}{x} + x^2 - \frac{1}{\sqrt{x^2+2}} + 3^x \right) dx$$

$$8) \int_3^4 \left(\frac{1}{x^2-4} + \frac{x}{\sqrt{4-x^2}} + \frac{1}{\sqrt{x^2-4}} \right) dx$$

$$9) \int_{\pi/4}^{\pi/3} \left(\frac{1}{\sqrt{1-x^2}} + 3 \operatorname{tg} x - \frac{5}{\sin^2 x} \right) dx$$

$$10) \int_1^2 \left(3^x + x^3 + \frac{4}{x^3} - 1 \right) dx$$