

TERMIN 11 - zadaci za samostalan rad

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Zadatak 1.

Izračunati

a) $\int \frac{\arctg \sqrt{x}}{\sqrt{x}} \cdot \frac{dx}{1+x},$

b) $\int \frac{1+\ln x}{x} dx,$

c) $\int \frac{e^x+1}{e^x+x} dx,$

d) $\int \frac{\operatorname{ctg} x}{\ln (\sin x)} dx.$

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- , - , K2 18.06.2021. ⑧ , -

Zadatak 2.

Izračunati

a) $\int_0^4 x \sqrt{x^2+9} dx,$

b) $\int_{\frac{\pi}{4}}^{\frac{\pi}{3}} \frac{dx}{\cos^2 x \left(1+\operatorname{tg}^2 x\right)},$

c) $\int_{-2021}^{2021} \cos (2021 \cdot x) dx,$

d) $\int_1^4 \frac{\sqrt{x}}{1+\sqrt{x}} dx.$

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K2 12.02.2021. ⑦ , K2 18.06.2021. ⑦ , - , -

Zadatak 3.

Izračunati

a) $\int \frac{3 x^2+4 x}{x^2+x} dx,$

b) $\int \frac{x^4+x^2+2 x}{x^2+1} dx,$

c) $\int \frac{x^2}{2 x^2+x+1} dx,$

d) $\int \frac{x^3+1}{x(1-x)^3} dx.$

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Zadatak 4.

Izračunati

a) $\int \sqrt{1-x^2} dx,$

b) $\int e^{x+\ln x} dx,$

c) $\int x^2 \arctg x dx,$

d) $\int x^3 \cos x dx.$

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Zadatak 5.

Izračunati

a) $\int \frac{x^2}{1+x^6} dx,$

b) $\int \frac{dx}{\sin x},$

c) $\int \frac{x^5}{x^6-x^3-2} dx,$

d) $\int \sin x \cdot\left(1-\cos ^2 x\right) dx.$

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ZI 14.02.2022. ④

Zadatak 6.

Izračunati

$$\int \frac{x \cdot \sqrt[3]{2+x}}{x+\sqrt[3]{2+x}} dx.$$

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ZI 26.09.2022. ④

Zadatak 7.

Izračunati

$$\int \sqrt{x^2+2 x+2} dx.$$

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Zadatak 8.

Izračunati

$$\int \frac{x^3 \arccos x}{\sqrt{1-x^2}} dx.$$

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Zadatak 9.

Izračunati

$$\int e^{\arctg x} \cdot\left(x^2+1\right)^{-\frac{3}{2}} dx.$$



Zadatak 10.
Izračunati

$$\int \frac{dx}{x^2 \cdot (x^2 + 1)^2}.$$