Integrujte

(1) $\int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \sin^2(x) - \frac{1}{\sin^2(x)}\,\mathrm{d}x$

(2) $\int_{0}^{\pi} x\sin(2x)\,\mathrm{d}x.$

(3) $\int_{0}^{1} x\,\mathrm{arctg}(x)\,\mathrm{d}x.$

(4) $\int_{1}^{e} \frac{\ln(x)}{x\left(\ln^2(x)+4\right)}\,\mathrm{d}x.$

(5) $\int_{0}^{1} (x-1)\,\mathrm{e}^x\,\mathrm{d}x.$

(6) $\int_{0}^{\frac{\pi}{4}} \mathrm{tg}^3\,x\,\mathrm{d}x.$

(7) $\int_{0}^{1} \frac{x+2}{x+1}\,\mathrm{d}x$

(8) $\int_{0}^{1} x\sqrt{x^2+1}\,\mathrm{d}x$

(9) $\int_{0}^{\pi^2} \sin\sqrt{x}\,\mathrm{d}x.$

(10) $\int_{1}^{e} \frac{\ln(x)}{x^2}\,\mathrm{d}x.$

(11) $\int_{1}^{\mathrm{e}} x^2\ln(x)\,\mathrm{d}x.$

(12) $\int_{0}^{\frac{\pi}{4}} \frac{\sin^3(x)+2}{\cos^2(x)}\,\mathrm{d}x.$

(13) $\int_{0}^{\frac{\sqrt{\pi}}{2}} x\,\mathrm{tg}\left(x^2\right)\mathrm{d}x.$

(14) $\int_{0}^{\frac{\pi}{2}} \frac{\sin(2x)}{1+\cos^2(x)}\,\mathrm{d}x$

(15) $\int_{\mathrm{e}^{\frac{\pi}{2}}}^{\mathrm{e}^{\pi}} \frac{\sin(\ln(x))}{x}\,\mathrm{d}x.$

(16) $\int_{0}^{\frac{\pi}{4}} \frac{x}{\cos^2(x)}\,\mathrm{d}x.$

(17) $\int_{0}^{1} \sqrt[3]{x\sqrt{x^3}}\,\mathrm{d}x$

(18) $\int_{1}^{\mathrm{e}^2} x\ln\left(\sqrt{x}\right)\mathrm{d}x.$

(19) $\int_{0}^{1} x\sin\left(1-x^2\right)\mathrm{d}x.$

(20) $\int_{0}^{\pi} \sin^3(x)\,\mathrm{d}x.$

(21) $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} x\cos\left(\frac{x}{2}\right)\mathrm{d}x.$

(22) $\int_{0}^{\frac{\pi}{4}} \mathrm{tg}^2(x)\,\mathrm{d}x$

(23) $\int_1^e \ln^2(x)\,\mathrm{d}x.$

(24) $\int_1^e \frac{1}{x\left(\ln^2(x)+4\right)}\,\mathrm{d}x.$

(25) $\int_0^{\frac{\sqrt{\pi}}{2}} \frac{x}{\operatorname{cotg}\left(x^2\right)}\,\mathrm{d}x.$

(26) $\int_1^{\mathrm{e}} x\ln^2(x)\,\mathrm{d}x.$

(27) $\int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cos(x)\ln(\sin(x))\,\mathrm{d}x.$

(28) $\int_{-1}^{1} x^2\,\mathrm{e}^{-x}\,\mathrm{d}x.$

(29) $\int_0^{\pi} x^2\cos\left(\frac{x}{2}\right)\mathrm{d}x$

(30) $\int_0^1 \frac{\sqrt{x}-1}{\sqrt{x}+1}\,\mathrm{d}x.$

(31) $\int_0^1 \frac{x}{\sqrt{x}+1}\,\mathrm{d}x.$

(32) $\int_0^1 \arccos(x)\,\mathrm{d}x.$

(33) $\int_0^1 x\ln(x+1)\,\mathrm{d}x.$

(34) $\int_0^1 \frac{\sqrt{x}}{x+1}\,\mathrm{d}x.$

(35) $\int_0^{\frac{\pi}{3}} \cos^2(x) - \frac{1}{\cos^2(x)}\,\mathrm{d}x$

(36) $\int_0^1 \frac{x}{1+x^4}\,\mathrm{d}x$

Integrujte

(1) $\displaystyle\int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \sin^2(x) - \frac{1}{\sin^2(x)}\,\mathrm{d}x = \frac{1}{8}\left(\pi - 6\right).$

(2) $\displaystyle\int_0^{\pi} x\sin(2x)\,\mathrm{d}x = -\frac{\pi}{2}.$

(3) $\displaystyle\int_0^{1} x\,\mathrm{arctg}(x)\,\mathrm{d}x = \frac{1}{4}(\pi - 2).$

(4) $\displaystyle\int_1^{e} \frac{\ln(x)}{x\left(\ln^2(x)+4\right)}\,\mathrm{d}x = \frac{1}{2}\ln\left(\frac{5}{4}\right).$

(5) $\displaystyle\int_0^{1} (x-1)\,\mathrm{e}^x\,\mathrm{d}x = 2 - e.$

(6) $\displaystyle\int_0^{\frac{\pi}{4}} \mathrm{tg}^3\,x\,\mathrm{d}x = \frac{1}{2}\left(1 - \ln(2)\right).$

(7) $\displaystyle\int_0^{1} \frac{x+2}{x+1}\,\mathrm{d}x = 1 + \ln 2.$

(8) $\displaystyle\int_0^{1} x\sqrt{x^2+1}\,\mathrm{d}x = \frac{1}{3}\left(\sqrt{2} - 1\right).$

(9) $\displaystyle\int_0^{\pi^2} \sin\sqrt{x}\,\mathrm{d}x = 2\pi.$

(10) $\displaystyle\int_1^{e} \frac{\ln(x)}{x^2}\,\mathrm{d}x = \frac{e-2}{e}.$

(11) $\displaystyle\int x^2\ln(x)\,\mathrm{d}x = \frac{1}{9}\left(2\mathrm{e}^3 + 1\right).$

(12) $\displaystyle\int_0^{\frac{\pi}{4}} \frac{\sin^3(x)+2}{\cos^2(x)}\,\mathrm{d}x = \frac{3\sqrt{2}}{2}.$

(13) $\displaystyle\int_0^{\frac{\sqrt{\pi}}{2}} x \operatorname{tg}\left(x^2\right) \mathrm{d}x = \frac{\ln(2)}{4}.$

(14) $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sin(2x)}{1+\cos^2(x)} \mathrm{d}x = \ln 2.$

(15) $\displaystyle\int \frac{\sin(\ln(x))}{x} \mathrm{d}x = -\cos(\ln(x)) + c = -\cos(\ln(x)) + c.$

(16) $\displaystyle\int_0^{\frac{\pi}{4}} \frac{x}{\cos^2(x)} \mathrm{d}x = \frac{1}{4}(\pi - \ln(4)).$

(17) $\displaystyle\int_0^1 \sqrt[3]{x\sqrt{x^3}} \mathrm{d}x = \frac{6}{11}.$

(18) $\displaystyle\int x \ln\left(\sqrt{x}\right) \mathrm{d}x = \frac{1}{8}\left(1 + 3\mathrm{e}^4\right)$

(19) $\displaystyle\int_0^1 x \sin\left(1-x^2\right) \mathrm{d}x = \frac{1}{2}\left(1 - \cos(1)\right).$

(20) $\displaystyle\int_0^{\pi} \sin^3(x) \mathrm{d}x = \frac{4}{3}.$

(21) $\displaystyle\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} x \cos\left(\frac{x}{2}\right) \mathrm{d}x = 0.$

(22) $\displaystyle\int_0^{\frac{\pi}{4}} \operatorname{tg}^2(x) \mathrm{d}x = 1 - \frac{\pi}{4}.$

(23) $\displaystyle\int_1^e \ln^2(x) \mathrm{d}x = e - 2.$

(24) $\displaystyle\int_1^e \frac{1}{x\left(\ln^2(x)+4\right)} \mathrm{d}x = \frac{1}{2} \operatorname{arctg}\left(\frac{1}{2}\right).$

(25) $\displaystyle\int_0^{\frac{\sqrt{\pi}}{2}} \frac{x}{\operatorname{cotg}\left(x^2\right)}\,\mathrm{d}x = \frac{\ln(2)}{4}.$

(26) $\displaystyle\int_1^{e} x\ln^2(x)\,\mathrm{d}x = \frac{1}{4}\left(e^2-1\right).$

(27) $\displaystyle\int \cos(x)\ln(\sin(x))\,\mathrm{d}x = 1-\left(\frac{\sqrt{2}}{2}\ln\left|\frac{\sqrt{2}}{2}\right|-\frac{\sqrt{2}}{2}\right).$

(28) $\displaystyle\int_{-1}^{1} x^2\,\mathrm{e}^{-x}\,\mathrm{d}x = e-\frac{5}{e}.$

(29) $\displaystyle\int_0^{2\pi} x^2\cos\left(\frac{x}{2}\right)\mathrm{d}x = -16\pi.$

(30) $\displaystyle\int_0^{1} \frac{\sqrt{x}-1}{\sqrt{x}+1}\,\mathrm{d}x = 4\ln 2-3.$

(31) $\displaystyle\int_0^{1} \frac{x}{\sqrt{x}+1}\,\mathrm{d}x = \frac{5}{3}-2\ln(2).$

(32) $\displaystyle\int_0^{1} \arccos(x)\,\mathrm{d}x = 1.$

(33) $\displaystyle\int_0^{1} x\ln(x+1)\,\mathrm{d}x = \frac{1}{4}.$

(34) $\displaystyle\int_0^{1} \frac{\sqrt{x}}{x+1}\,\mathrm{d}x = 2-\frac{\pi}{2}.$

(35) $\displaystyle\int_0^{\frac{\pi}{3}} \cos^2(x)-\frac{1}{\cos^2 x}\,\mathrm{d}x = \frac{\pi}{6}-\frac{7\sqrt{3}}{8}.$

$\displaystyle\int_0^{1} \frac{x}{1+x^4}\,\mathrm{d}x = \frac{\pi}{8}.$