Integrujte

(1) $\int \frac{(\mathrm{e}^x)^2}{\sqrt{1-\mathrm{e}^{4x}}}\,\mathrm{d}x.$

(2) $\int \frac{x^3}{\sqrt{2-x^4}}\,\mathrm{d}x.$

(3) $\int \mathrm{tg}(2x)\,\mathrm{d}x.$

(4) $\int \frac{\mathrm{e}^{\arcsin x}}{\sqrt{1-x^2}}\,\mathrm{d}x.$

(5) $\int (3x-1)\,\mathrm{e}^{2+(1-3x)^2}\,\mathrm{d}x.$

(6) $\int \frac{(\mathrm{e}^x)^3}{1-\mathrm{e}^{3x}}\,\mathrm{d}x.$

(7) $\int \frac{1}{x(2-3\ln(x))^2}\,\mathrm{d}x.$

(8) $\int \frac{x^2}{x^6+1}\,\mathrm{d}x.$

(9) $\int \frac{x-1}{\sqrt{1-4x^2}}\,\mathrm{d}x.$

(10) $\int \frac{x^2}{x^3+1}\,\mathrm{d}x.$

(11) $\int \frac{\cos(x)-\sin(x)}{\sin(x)+\cos(x)}\,\mathrm{d}x.$

(12) $\int \frac{x}{\sqrt{x^2+1}}\,\mathrm{d}x.$

(13) $\int \frac{\mathrm{e}^x}{1+\mathrm{e}^{2x}}\,\mathrm{d}x.$

(14) $\int (2x+3)\,\cos\left(x^2+3x-7\right)\mathrm{d}x.$

(15) $\int \frac{x}{(x^2+1)\ln(x^2+1)}\,\mathrm{d}x.$

(16) $\int \frac{(3-2\ln(x))^2}{x}\,\mathrm{d}x.$

(17) $\int \sqrt{\mathrm{e}^{1-2x}}\,\mathrm{d}x.$

(18) $\int \frac{2x}{\mathrm{e}^{\arcsin(x^2)}\sqrt{1-x^4}}\,\mathrm{d}x.$

(19) $\int \frac{\sin x\cos x}{\sqrt[3]{1-\cos(2x)}}\,\mathrm{d}x.$

(20) $\int \mathrm{tg}(x)\,\mathrm{d}x.$

(21) $\int \frac{7x^6-16x^3+15x^2-1}{x^7-4x^4+5x^3-x+2}\,\mathrm{d}x.$

(22) $\int \frac{1-\ln x}{x\,\sqrt[3]{\ln x}}\,\mathrm{d}x.$

(23) $\int \frac{\sin\left(1-2\mathrm{e}^{-x}\right)}{\mathrm{e}^x}\,\mathrm{d}x.$

(24) $\int \frac{\mathrm{e}^{1-2\,\mathrm{tg}(x)}}{\cos^2(x)}\,\mathrm{d}x.$

(25) $\int \frac{\sin\left(\mathrm{e}^{-x}\right)}{\mathrm{e}^x}\,\mathrm{d}x.$

(26) $\int \frac{1-2\ln(x)}{x}\,\mathrm{d}x.$

(27) $\int \frac{\sqrt[3]{1-\sqrt{3x}}}{\sqrt{3x}}\,\mathrm{d}x.$

(28) $\int \frac{2\cos(2x)-\sin(x)}{\sin(2x)+\cos(x)}\,\mathrm{d}x.$

(29) $\int \frac{\sin\sqrt{x}}{\sqrt{x}}\,\mathrm{d}x.$

(30) $\int \frac{1-3x^2}{x^3-x+1}\,\mathrm{d}x.$

Integrujte

(1) $\displaystyle\int \frac{(\mathrm{e}^x)^2}{\sqrt{1-\mathrm{e}^{4x}}}\,\mathrm{d}x = \frac{1}{2}\arcsin(\mathrm{e}^{2x}) + c.$

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

(3) $\displaystyle\int \mathrm{tg}(2x)\,\mathrm{d}x = -\frac{1}{2}\ln\big(\cos(2x)\big) + c.$

(4) $\displaystyle\int \frac{\mathrm{e}^{\arcsin x}}{\sqrt{1-x^2}}\,\mathrm{d}x = \mathrm{e}^{\arcsin x} + c.$

(5) $\displaystyle\int (3x-1)\,\mathrm{e}^{2+(1-3x)^2}\,\mathrm{d}x = \frac{1}{6}\mathrm{e}^{2+(1-3x)^2} + c = \frac{1}{6}\mathrm{e}^{2+(1-3x)^2} + c.$

(6) $\displaystyle\int \frac{(\mathrm{e}^x)^3}{1-\mathrm{e}^{3x}}\,\mathrm{d}x = -\frac{1}{3}\ln(1-\mathrm{e}^{3x}) + c.$

(7) $\displaystyle\int \frac{1}{x(2-3\ln(x))^2}\,\mathrm{d}x = \frac{1}{6-9\ln(x)} + c = \frac{1}{6-9\ln(x)} + c.$

(8) $\displaystyle\int \frac{x^2}{x^6+1}\,\mathrm{d}x = \frac{1}{3}\,\mathrm{arctg}\left(x^3\right) + c.$

(9) $\displaystyle\int \frac{x-1}{\sqrt{1-4x^2}}\,\mathrm{d}x = -\frac{1}{4}\sqrt{1-4x^2} - \frac{1}{2}\arcsin(2x) + c.$

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

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

(12) $\displaystyle\int \frac{x}{\sqrt{x^2+1}}\,\mathrm{d}x = \sqrt{x^2+1} + c = \sqrt{x^2+1} + c.$

(13) $\displaystyle\int \frac{\mathrm{e}^x}{1+\mathrm{e}^{2x}}\,\mathrm{d}x = \mathrm{arctg}(\mathrm{e}^x) + c.$

(14)
$$\int (2x+3)\,\cos\left(x^2+3x-7\right)\,\mathrm{d}x = \sin\left(x^2+3x-7\right)+c = \cos(7)\sin\left(x^2+3x\right)-\sin(7)\cos\left(x^2+3x\right)+c.$$

(15) $$\int \frac{x}{(x^2+1)\ln(x^2+1)}\,\mathrm{d}x = \frac{1}{2}\ln\left(\ln\left(x^2+1\right)\right)+c = \frac{1}{2}\ln\left(\ln\left(x^2+1\right)\right)+c.$$

(16) $$\int \frac{(3-2\ln(x))^2}{x}\,\mathrm{d}x = -\frac{1}{2}\frac{\left(3-2\ln(x)\right)^3}{3}+c = \frac{4\ln^3(x)}{3}-6\ln^2(x)+9\ln(x)+c.$$

(17) $$\int \sqrt{\mathrm{e}^{1-2x}}\,\mathrm{d}x = -\sqrt{\mathrm{e}^{1-2x}}+c.$$

(18) $$\int \frac{2x}{\mathrm{e}^{\arcsin(x^2)}\sqrt{1-x^4}}\,\mathrm{d}x = -\frac{1}{\mathrm{e}^{\arcsin(x^2)}}+c = -\mathrm{e}^{-\arcsin\left(x^2\right)}+c.$$

(19) $$\int \frac{\sin x\cos x}{\sqrt[3]{1-\cos(2x)}}\,\mathrm{d}x = -\frac{3}{8}\sqrt[3]{\left(1-\cos(2x)\right)^2}+c.$$

(20) $$\int \mathrm{tg}(x)\,\mathrm{d}x = -\ln(\cos(x))+c.$$

(21)
$$\int \frac{7x^6-16x^3+15x^2-1}{x^7-4x^4+5x^3-x+2}\,\mathrm{d}x = \ln\left(x^7-4x^4+5x^3-x+2\right)+c = \ln\left(x^7-4x^4+5x^3-x+2\right)+c.$$

(22) $$\int \frac{1-\ln x}{x\sqrt[3]{\ln x}}\,\mathrm{d}x = \frac{3\ln^{\frac{2}{3}}x}{2}-\frac{3\ln^{\frac{5}{3}}x}{5}+c.$$

(23) $$\int \frac{\sin\left(1-2\mathrm{e}^{-x}\right)}{\mathrm{e}^x}\,\mathrm{d}x = -\frac{1}{2}\cos(1-2\mathrm{e}^{-x})+c.$$

(24) $$\int \frac{\mathrm{e}^{1-2\,\mathrm{tg}(x)}}{\cos^2(x)}\,\mathrm{d}x = -\frac{1}{2}\mathrm{e}^{1-2\,\mathrm{tg}(x)}+c.$$

(25) $$\int \frac{\sin\left(\mathrm{e}^{-x}\right)}{\mathrm{e}^x}\,\mathrm{d}x = \cos\left(\mathrm{e}^{-x}\right)+c.$$

(26) $$\int \frac{1-2\ln(x)}{x}\,\mathrm{d}x = \ln(x)-\ln^2(x)+c = \ln(x)-\ln^2(x)+c.$$

(27) $$\int \frac{\sqrt[3]{1-\sqrt{3}\sqrt{x}}}{\sqrt{3}\sqrt{x}}\,\mathrm{d}x = -\frac{1}{2}\left(1-\sqrt{3x}\right)^{4/3}+c = -\frac{1}{2}\sqrt[3]{\left(1-\sqrt{3x}\right)^4}+c.$$

(28) $$\int \frac{2\cos(2x)-\sin(x)}{\sin(2x)+\cos(x)}\,\mathrm{d}x = \ln(\sin(2x)+\cos(x))+c = \ln(\sin(2x)+\cos(x))+c.$$

(29) $$\int \frac{\sin\sqrt{x}}{\sqrt{x}}\,\mathrm{d}x = -2\cos\sqrt{x}+c.$$

(30) $$\int \frac{1-3x^2}{x^3-x+1}\,\mathrm{d}x = -\ln\left(x^3-x+1\right)+c = -\ln\left(x^3-x+1\right)+c.$$