Integrala nedefinita

1. Sa se calculeze:

1.1. $\int (x^3 + x^2 + x - 2)\, dx.$

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

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

1.4. $\int \frac{3 - x - x^2}{x^3}\, dx.$

1.5. $\int \frac{(x^3+1)^3}{x^3}\, dx.$

1.6. $\int \frac{(x^2+1)^3}{x^4}\, dx.$

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

1.8. $\int (\sqrt{x} + \sqrt[3]{x})\, dx.$

1.9. $\int \left(\sqrt[3]{x^2} - \frac{1}{\sqrt{x}} - \frac{1}{\sqrt[3]{x^2}} + \sqrt[4]{x^5}\right) dx.$

1.10. $\int \left(\sqrt{x} + \frac{1}{\sqrt{x}}\right)^3 dx.$

1.11. $\int \frac{x^2}{x^2+1}\, dx.$

1.12. $\int \frac{x^4}{x^2+1}\, dx.$

1.13. $\int \frac{1 - \cos^3 x}{\cos^2 x}\, dx.$

1.14. $\int \frac{1 + 3x^2}{x^2(1+2x^2)}\, dx.$

1.15. $\int \frac{2\mathrm{tg}^2 x + 3}{\sin^2 x}\, dx.$

1.16. $\int \frac{x^6 - x^2 + 1}{x^2+1}\, dx.$

1.17. $\int \frac{\cos 2x}{\sin^2 x \cos^2 x}\, dx.$

1.18. $\int \frac{dx}{\sin^2 x \cos^2 x}.$

1.19. $\int \sin^2 \frac{x}{2}\, dx.$

1.20. $\int \cos^2 \frac{x}{2}\, dx.$

1.21. $\int \left(\cos \frac{x}{2} - \sin \frac{x}{2}\right)^2 dx.$

1.22. $\int \left(\cos^4 \frac{x}{2} - \sin^4 \frac{x}{2}\right) dx.$

1.23. $\int \mathrm{tg}^2 x\, dx.$

1.24. $\int \mathrm{ctg}^2 x\, dx.$

1.25. $\int \left(3^{\frac{x}{2}} + 3^{-\frac{x}{2}}\right)^2 dx.$

1.26. $\int e^x \left(1 + \frac{e^{-x}}{\sin^2 x}\right) dx.$

1.27. $\int e^x 2^x\, dx.$

1.28. $\int 3^x \left(2 + \frac{3^{-x}}{\sqrt{1-x^2}}\right) dx.$

1.29. $\int \frac{3^x + 4^x}{12^x}\, dx.$

1.30. $\int \left(\frac{2}{\sqrt{1-x^2}} - \frac{3}{1+x^2}\right) dx.$

2. Sa se calculeze:

2.1. $\int (2x+5)^3\ dx.$

2.2. $\int (3x-7)^5\ dx.$

2.3. $\int (4-x)^{10}\ dx.$

2.4. $\int \sqrt[3]{(2x-7)^5}\ dx.$

2.5. $\int \sqrt[4]{\left(1-\frac{x}{2}\right)^3}\ dx.$

2.6. $\int \sqrt{3x-7}\ dx.$

2.7. $\int \sin 5x\ dx.$

2.8. $\int \sin(3x-2)\ dx.$

2.9. $\int \cos 4x\ dx.$

2.10. $\int \cos\left(3-\frac{x}{2}\right)\ dx.$

2.11. $\int \frac{dx}{\cos^2 7x}.$

2.12. $\int \frac{dx}{\cos^2\left(\frac{x}{2}-3\right)}.$

2.13. $\int \frac{dx}{\sin^2 \frac{x}{3}}.$

2.14. $\int \frac{dx}{\sin^2(3-2x)}.$

2.15. $\int \frac{dx}{\sqrt{1-4x^2}}.$

2.16. $\int \frac{dx}{\sqrt{4-x^2}}.$

2.17. $\int \frac{dx}{1+9x^2}.$

2.18. $\int \frac{dx}{1+\frac{x^2}{4}}.$

2.19. $\int \frac{dx}{x+1}.$

2.20. $\int \frac{dx}{3x-1}$

2.21. $\int e^{-x}\ dx.$

2.22. $\int e^{3x-1}\ dx.$

2.23. $\int 2^{3x+1}\ dx.$

2.24. $\int 5^{1-2x}\ dx.$

3. Sa se calculeze:

3.1. $\int \left(x^2+3x+1\right)^{10}(2x+3)\ dx.$

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

3.3. $\int \sqrt[3]{x^3-8}\ x^2\ dx.$

3.4. $\int \sqrt{x^4+1}\ x^3\ dx.$

3.5. $\int \frac{2x-3}{x^2-3x+7}\ dx.$

3.6. $\int \frac{6x-7}{3x^2-7x+10}\ dx.$

3.7. $\int \frac{e^{\sqrt{x+1}}}{\sqrt{x+1}}\ dx.$

3.8. $\int e^{\sin x}\cos x\ dx.$

3.9. $\int \frac{e^{\arcsin x}}{\sqrt{1-x^2}}\,dx.$

3.10. $\int \frac{e^{\operatorname{arctg} x}+1}{1+x^2}\,dx.$

3.11. $\int e^{x^3}x^2\,dx.$

3.12. $\int \sin^3 x\cos x\,dx.$

3.13. $\int \cos^5 x\sin x\,dx.$

3.14. $\int \sin^7 x\cos x\,dx.$

3.15. $\int \frac{\sin x}{\cos^5 x}\,dx.$

3.16. $\int \frac{\cos x}{1+2\sin x}\,dx.$

3.17. $\int \frac{dx}{x\ln x}.$

3.18. $\int \frac{dx}{x\,(\ln x+2)}.$

3.19. $\int \frac{\sqrt[3]{(1+\ln x)^2}}{x}\,dx.$

3.20. $\int \frac{(\ln x+4)^2}{x}\,dx.$

3.21. $\int \frac{\operatorname{arctg}^2 x}{1+x^2}\,dx.$

3.22. $\int \frac{\operatorname{arctg} 2x+x}{1+4x^2}\,dx.$

3.23. $\int \frac{\arcsin^2 x-1}{\sqrt{1-x^2}}\,dx.$

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

3.25. $\int \frac{dx}{\sin x}.$

3.26. $\int \frac{dx}{\cos x}.$

3.27. $\int \frac{2^x}{\sqrt{1-4^x}}\,dx.$

3.28. $\int \frac{6x-7}{3x^2-7x+10}\,dx.$

3.29. $\int 3^{2x^2+x-1}(4x+1)\,dx.$

3.30. $\int xe^{-x^2}\,dx.$

4. Sa se calculeze:

4.1. $\int \frac{1}{x^2}\sin\frac{1}{x}\,dx.$

4.2. $\int \frac{dx}{\sqrt{x}+\sqrt[4]{x}}\,.$

4.3. $\int \frac{dx}{\sin^2 x+4\cos^2 x}.$

4.4. $\int \frac{dx}{1+\sin^2 x}.$

4.5. $\int \frac{6\operatorname{tg} x}{3\sin 2x+5\cos^2 x}\,dx.$

4.6. $\int \frac{8+\operatorname{tg} x}{18\sin^2 x+2\cos^2 x}\,dx.$

4.7. $\int \frac{\ln\arcsin x}{\sqrt{1-x^2}\arcsin x}\,dx.$

4.8. $\int \ln\frac{1+x}{1-x}\cdot\frac{1}{x^2-1}\,dx.$

4.9. $\int \frac{e^{\operatorname{ctg} 2x}+\operatorname{tg} 2x}{\sin^2 2x}\,dx.$

4.10. $\int \frac{\operatorname{arcctg}\sqrt{x}}{(1+x)\sqrt{x}}\,dx.$

4.11. $\int \frac{\cos^3 x}{\sqrt{\sin x}}\,dx.$

4.12. $\int \frac{dx}{x^2\sqrt{1+x^2}}\,.$

4.13. $\int \frac{dx}{\sqrt{-8-6x-x^2}}$.

4.14. $\int \frac{dx}{x^2+4x+5}$.

4.15. $\int \frac{x+1}{x^2-x+1}\ dx.$

4.16. $\int \frac{3x^2-2x}{x^3-x^2+1}\ dx.$

4.17. $\int \sqrt{\frac{1+x}{1-x}} \cdot \frac{1}{1-x}\ dx.$

4.18. $\int \frac{e^x-1}{e^x+1}\ dx.$

4.19. $\int \frac{7x+3}{x^2+4}\ dx.$

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

4.21. $\int \frac{3\cos x+2\sin x}{(3\sin x-2\cos x)^2}\ dx.$

4.22. $\int \frac{3\cos x-2\sin x}{(2\cos x+3\sin x)^3}\ dx.$

5. Sa se calculeze:

5.1. $\int x\sin x\ dx.$

5.2. $\int x\cos x\ dx.$

5.3. $\int x^2\sin x\ dx.$

5.4. $\int (x^2-x+1)\cos x\ dx.$

5.5. $\int xe^x\ dx.$

5.6. $\int x^2e^x\ dx.$

5.7. $\int xe^{3x}\ dx.$

5.8. $\int (x^2+x-1)e^x\ dx.$

5.9. $\int x\ln x\ dx.$

5.10. $\int x^2\ln x\ dx.$

5.11. $\int (x^2+x+1)\ln x\ dx.$

5.12. $\int \ln x\ dx.$

5.13. $\int x^n\ln x\ dx\ ,\ n\in\mathbb{N}.$

5.14. $\int \ln^2 x\ dx.$

5.15. $\int x\,\mathrm{arctg}\,x\ dx.$

5.16. $\int \mathrm{arctg}\,x\ dx.$

5.17. $\int \arccos^2 x\ dx.$

5.18. $\int \arcsin^2 x\ dx.$

5.19. $\int x^2 3^x\ dx.$

5.20. $\int x2^x\ dx.$

5.21. $\int e^x\sin x\ dx.$

5.22. $\int e^x\cos x\ dx.$

5.23. $\int \cos(\ln x)\ dx.$

5.24. $\int \sin(\ln x)\ dx.$

5.25. $\int \frac{x}{\sin^2 x}\,dx.$ 5.26. $\int \frac{x}{\cos^2 x}\,dx.$

5.27. $\int \frac{\operatorname{arctg} x}{x^2}\,dx.$ 5.28. $\int \frac{\arcsin x}{\sqrt{1+x}}\,dx.$

6. Sa se calculeze:

6.1. $\int \frac{x-5}{(x-3)(x-4)}\,dx.$ 6.2. $\int \frac{2x+5}{(x-1)(x+6)}\,dx.$

6.3. $\int \frac{dx}{(x+2)(x-1)}.$ 6.4. $\int \frac{x+1}{(x+2)(x+3)}\,dx.$

6.5. $\int \frac{dx}{(x-3)(x-2)(x+1)}.$ 6.6. $\int \frac{x^3+3x^2+3x+1}{x(x+2)(x+3)}\,dx.$

6.7. $\int \frac{x^3-3x^2+3x}{(x-1)(x-2)}\,dx.$ 6.8. $\int \frac{2x^4-5x^2-8x-8}{x(x-2)(x+2)}\,dx.$

6.9. $\int \frac{dx}{(x-2)(x+1)(x+2)}.$ 6.10. $\int \frac{x^2-x-9}{x^2-x-6}\,dx.$

6.11. $\int \frac{x^2+2x+2}{x(x+2)(x-1)(x+3)}\,dx.$ 6.12. $\int \frac{x^2+2x-11}{(x-1)(x+3)(x-5)}\,dx.$

6.13. $\int \frac{dx}{x^2(x+2)}.$ 6.14. $\int \frac{x^2+4x+6}{(x+2)^2x}\,dx.$

6.15. $\int \frac{x^5-2x^2+3}{(x-2)^2}\,dx.$ 6.16. $\int \frac{2x+1}{(x-1)^3}\,dx.$

6.17. $\int \frac{x^2-2x+3}{x^2(x-2)}\,dx.$ 6.18. $\int \frac{x+1}{(x-1)^2(x-3)}\,dx.$

6.19. $\int \frac{5x-1}{(x-1)^2(x-2)}\,dx.$ 6.20. $\int \frac{dx}{x^2(x+5)^2}.$

6.21. $\int \frac{dx}{x(x+1)^2(x+2)^3}.$ 6.22. $\int \frac{x}{(x+1)^2(x+2)^2(x-1)}\,dx.$

7. Sa se calculeze:

7.1. $\int \frac{dx}{x^3+8}.$ 7.2. $\int \frac{dx}{x(x^2+1)}.$

7.3. $\int \frac{dx}{(x+1)(x^2+2)}.$ 7.4. $\int \frac{x-2}{x(x^2+4)}\,dx.$

7.5. $\int \frac{x}{x^3+1}\,dx.$ 7.6. $\int \frac{dx}{(x-2)(x-4)(x^2+2x+2)}.$

7.7. $\int \frac{x^4}{x^4-1}\,dx.$ 7.8. $\int \frac{x-1}{x(x^2+1)}\,dx.$

7.9. $\int \frac{x^3+4x^2+3x+2}{(x+1)^2(x^2+1)}\,dx.$

7.10. $\int \frac{x(x^2+2x+10)}{(x+1)^2(x^2-x+1)}\,dx.$

7.11. $\int \frac{dx}{x^2(x^2-2x+2)}.$

7.12. $\int \frac{3x^2-6x+1}{(x+1)^2(3x^2-8x+9)}\,dx.$

7.13. $\int \frac{x-1}{(x^2+1)^2}\,dx.$

7.14. $\int \frac{x^4+2x^2+4}{(x^2+1)^3}\,dx.$

7.15. $\int \frac{x^2+2x+7}{(x-2)(x^2+1)^2}\,dx.$

7.16. $\int \frac{3x+1}{x(1+x^2)^2}\,dx.$

7.17. $\int \frac{5x+8}{(x^2+4)^2}\,dx.$

7.18. $\int \frac{3x+5}{(x^2+2x+2)^2}\,dx.$

7.19. $\int \frac{x^2}{(x+1)^2(x^2-x+1)}\,dx.$

7.20. $\int \frac{2x^4+5x^2-2}{2x^3-x-1}\,dx.$

8. Sa se calculeze:

8.1. $\int \frac{dx}{3\sin x+4\cos x}.$

8.2. $\int \frac{dx}{\sin 2x+\cos^2 x}.$

8.3. $\int \frac{dx}{\sin x-\cos x}.$

8.4. $\int \frac{dx}{3\sin x+4\cos x+5}.$

8.5. $\int \frac{3\sin x+2\cos x}{\sin^2 x\cos x+4\cos^3 x}\,dx.$

8.6. $\int \frac{\sin x+3\cos x}{\sin^2 x\cos x+\cos^3 x}\,dx.$

8.7. $\int \frac{\sin x(1+\sin^2 x)}{\cos 2x}\,dx.$

8.8. $\int \frac{\cos^3 x(1+\cos^2 x)}{\sin^2 x(1+\sin^2 x)}\,dx.$

8.9. $\int \cos 2x\cos 4x\,dx.$

8.10. $\int \cos 3x\cos x\cos 5x\,dx.$

8.11. $\int \sin x\sin 3x\,dx.$

8.12. $\int \sin 2x\sin 4x\sin 6x\,dx.$

8.13. $\int \sin x\cos 3x\,dx.$

8.14. $\int \sin 2x\cos 4x\cos 6x\,dx.$

8.15. $\int \sin^2 2x\cos^2 2x\,dx.$

8.16. $\int \sin^4 x\cos^4 x\,dx.$

8.17. $\int \sin^2 x\cos^4 x\,dx.$

8.18. $\int \sin^4 x\cos^2 x\,dx.$

8.19. $\int \sin^2 x\cos^3 x\,dx.$

8.20. $\int \sin^3 x\cos^2 x\,dx.$

8.21. $\int \cos^5 x\,dx.$

8.22. $\int \sin^3 x\cos^3 x\,dx.$