

ZADANIA Z CAŁEK NIEOZNACZONYCH

Oblicz całki:

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

2. $\int \frac{x^3 + \sqrt{x} - \sqrt[3]{x^4}}{\sqrt[5]{x}} dx,$

3. $\int \frac{2t^3 - 3t\sqrt[3]{x} + 5t^5\sqrt{t^2}}{t\sqrt{t}} dt,$

4. $\int \frac{1}{\sqrt[5]{2kx}} dx,$

5. $\int \frac{\sqrt{x} - 2\sqrt[3]{x^2} + 4\sqrt[4]{5x^3}}{6\sqrt[3]{x}} dx,$

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

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

8. $\int (3 + 2\sqrt[4]{x})^3 dx,$

9. $\int \left(\sin x + \frac{1}{\cos^2 x} + \frac{4}{\sqrt{1-x^2}} - \frac{5}{x} \right) dx$

10. $\int \left(b^x \ln b - \frac{b \cdot a^x - a \cdot b^x}{a^x} \right) dx,$

11. $\int \operatorname{ctg}^2 x dx,$

12. $\int \frac{4-x}{2+\sqrt{x}} dx,$

13. $\int \frac{8-x^3}{2-x} dx,$

14. $\int \frac{x^3 + 27}{x+3} dx,$

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

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

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

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

19. $\int \frac{\cos 2x}{\sin x - \cos x} dx.$

CAŁKOWANIE PRZEZ PODSTAWIENIE

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

2. $\int \frac{1}{\sqrt[5]{2x+7}} dx,$

3. $\int \frac{1}{\sqrt{3x-8}} dx,$

4. $\int \frac{x}{\sqrt{3x-8}} dx,$

5. $\int (2x+8)^9 dx,$

6. $\int \frac{1}{\sqrt{1-9x^2}} dx,$

7. $\int \frac{x}{\sqrt{1-9x^2}} dx,$

8. $\int \frac{x}{\sqrt{9-x^2}} dx,$

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

10. $\int \frac{x}{1+4x^2} dx$
11. $\int \frac{5x}{1+x^4} dx,$
12. $\int x e^{x^2} dx,$
13. $\int x^3 (2x^4 + 8)^{19} dx,$
14. $\int x \sqrt{x^2 + 9} dx,$
15. $\int x^3 \sqrt{x^2 + 9} dx,$
16. $\int x^7 \sqrt[5]{x^4 - 5} dx,$
17. $\int e^{x^4} \sqrt[4]{e^x + 2} dx,$
18. $\int \frac{\ln^3 x}{x} dx,$
19. $\int \frac{\arcsin^{11} x}{\sqrt{1-x^2}} dx,$
20. $\int \frac{1}{\operatorname{tg}^3 x \cos^2 x} dx,$
21. $\int \frac{\sqrt[4]{\operatorname{arctg} x}}{1+x^2} dx,$
22. $\int \frac{\cos x}{1+4 \sin^2 x} dx,$
23. $\int \frac{2^x}{1+4^x} dx,$
24. $\int \frac{e^x}{\sqrt{1-3e^{2x}}} dx,$
25. $\int x^2 e^{x^3} dx,$
26. $\int \frac{e^{\frac{1}{x}}}{x^2} dx,$
27. $\int \frac{\cos \sqrt{x}}{\sqrt{x}} dx,$
28. $\int \frac{e^x}{\sqrt[5]{e^x - 88}} dx,$
29. $\int \frac{\operatorname{tg} x}{(1+\operatorname{tg}^4 x) \cos^2 x} dx,$
30. $\int \frac{\cos x}{\sqrt{8 \sin x - 1}} dx,$
31. $\int \frac{x}{4+3x^2} dx,$
32. $\int \frac{2x+5}{x^2+5x-8} dx,$
33. $\int \frac{e^x}{4+3e^x} dx,$
34. $\int \frac{1}{x(3 \ln x + 5)} dx,$
35. $\int \operatorname{ctg} x dx,$
36. $\int \frac{\operatorname{ctg} x}{\ln(\sin x)} dx,$
37. $\int \frac{x}{\sqrt{x+1}} dx.$

CAŁKOWANIE PRZEZ CZĘŚCI

1. $\int x \cos 5x dx,$
2. $\int x^2 \sin 2x dx,,$
3. $\int x^2 e^{3x} dx,$
4. $\int x^2 5^x dx,$
5. $\int \ln x dx,$
6. $\int \arcsin 3x dx,$
7. $\int \operatorname{arctg} x dx,$
8. $\int \sin(\ln x) dx,$

$$9. \int \cos(\ln x) dx,$$

$$10. \int x \arctg x dx$$

$$11. \int \frac{x}{\sin^2 x} dx,$$

$$12. \int \frac{x \sin x}{\cos^3 x} dx,$$

$$13. \int \frac{x \cos x}{\sin^3 x} dx,$$

$$14. \int \ln^2 x dx,$$

$$15. \int \frac{\ln^2 x}{x^2} dx,$$

$$16. \int \frac{\ln^2 x}{\sqrt[4]{x}} dx,$$

$$17. \int \frac{\ln(\arctg x)}{1+x^2} dx,$$

$$18. \int \frac{\ln(\sin x)}{\sin^2 x} dx,$$

$$19. \int \frac{\ln(\cos x)}{\cos^2 x} dx,$$

$$20. \int \sin^2 x dx,$$

$$21. \int x^3 e^{-x^2} dx,$$

$$22. \int x t g^2 x dx,$$

$$23. \int \sqrt{a^2 - x^2} dx,$$

$$24. \int \frac{x}{\sqrt{x+1}} dx,$$

$$25. \int \frac{x}{\sqrt{3x-8}} dx.$$

CAŁKOWANIE FUNKCJI WYMIERNYCH

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

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

$$3. \int \frac{4}{x^2 - 2x - 3} dx$$

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

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

$$6. \int \frac{x^5 + 2}{x^3 - 1} dx,$$

$$7. \int \frac{5x^2 - 3}{(x-2)(3x^2 + 2x - 1)} dx,$$

$$8. \int \frac{x^2 - 6x + 5}{x^2 + 6x + 5} dx,$$

$$9. \int \frac{x+5}{4x^2 + x + 7} dx,$$

$$10. \int \frac{x-1}{x^2 - 4} dx,$$

$$11. \int \frac{x^3 + 1}{x^2 - 4} dx,$$

$$12. \int \frac{x^3 + 1}{x^2 + 4} dx,$$

$$13. \int \frac{x+1}{x^2 + 9} dx.$$

1.

CALKI RÓŻNE

1. $\int x \sin^2 x \, dx,$

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

3. $\int x^2 \arctg x \, dx,$

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

5. $\int \frac{\sin^3 x}{\sqrt[5]{\cos^3 x}} \, dx,$

6. $\int \frac{e^{2x}}{\sqrt[4]{e^x + 1}} \, dx,$

7. $\int \frac{\sqrt{1+x}}{x} \, dx,$

8. $\int \frac{\ln(x+1)}{\sqrt{1+x}} \, dx,$

9. $\int \frac{1+\sqrt{x}}{1-\sqrt{x}} \, dx,$

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

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

12. $\int \frac{\cos^4 x}{\sin x} \, dx,$

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

14. $\int \sin^9 x \, dx,$

15. $\int \cos^6 x \, dx,$

16. $\int \sin^6 x \, dx,$

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