

2026 _ Определенный интеграл – Задача 1
Примеры для самостоятельного решения

1. $\int_0^1 \frac{dx}{(2x+1)^3}$	2. $\int_0^2 \frac{x+3}{x^2+4} dx$
3. $\int_1^2 \frac{dx}{x^2+5x+4}$	4. $\int_0^{\frac{\pi}{4}} \sin^2 2x dx$
5. $\int_{-1}^0 \frac{dx}{4x^2-9}$	6. $\int_3^{3\sqrt{3}} \frac{dx}{x^2+9}$
7. $\int_1^3 \frac{dx}{1+\sqrt{4x-3}}$	8. $\int_2^6 \frac{x+1}{x\sqrt{x-2}} dx$
9. $\int_0^1 \frac{x-2}{\sqrt{1-x}} dx$	10. $\int_0^1 \frac{\sqrt{x} dx}{\sqrt{x}+1}$
11. $\int_0^1 \frac{x dx}{\sqrt{1-x^2}}$	12. $\int_0^4 x\sqrt{x^2+9} dx$
13. $\int_0^5 \frac{x dx}{\sqrt{1+3x}}$	14. $\int_{\ln 2}^{\ln 3} \frac{dx}{e^x - e^{-x}}$
15. $\int_0^{\ln 2} \sqrt{e^x - 1} dx$	16. $\int_0^1 \frac{x^2 dx}{(x+1)^4}$
17. $\int_1^e \frac{\sqrt[4]{1+\ln x}}{x} dx$	18. $\int_{\ln 3}^0 \frac{1-e^x}{1+e^x} dx$
19. $\int_{-1}^0 \frac{dx}{1+\sqrt[3]{x+1}}$	20. $\int_0^3 \sqrt{\frac{x}{6-x}} dx$
21. $\int_1^e \ln x dx$	22. $\int_0^1 x \operatorname{arctg} x dx$
23. $\int_0^{3\frac{\pi}{2}} x \cos x dx$	24. $\int_0^1 \arcsin x dx$
25. $\int_0^1 x e^{-x} dx$	26. $\int_0^{\pi} e^x \sin x dx$
27. $\int_0^2 x \ln(x+1) dx$	28. $\int_0^{\frac{\pi}{12}} (x+3) \sin 6x dx$

$$29. \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} x \cos \frac{x}{2} dx$$

$$30. \int_{-\pi}^{\pi} x \sin x \cos x dx$$