



1.
$$\int \frac{1}{x + \sqrt{x}} dx$$
2.
$$\int_0^\infty \frac{4x}{1 + x^4} dx$$
3.
$$\int_1^\infty \frac{1}{x^2 \sqrt{x^2 - 1}} dx$$
4.
$$\int_1^\infty \ln\left(1 + \frac{1}{x}\right) - \frac{1}{x + 1} dx$$
5.
$$\int \frac{\sin^4 \theta}{\cos \theta} d\theta$$
6.
$$\int_0^\infty 2 - \frac{x}{\sqrt{x^2 + \pi^2}} - \frac{x}{\sqrt{x^2 + e^2}} dx$$
7.
$$\int_{-1}^8 \sqrt{x} \sin(\tan^{-1}(\sqrt{x})) dx$$
8.
$$\int \frac{\sin 2x}{1 + \cos x} dx$$
9.
$$\int \frac{x + 1}{x^2 + x \ln x} dx$$
10.
$$\int_0^{\frac{3}{2}} \sqrt{1 + \sqrt{x^2 + \sqrt{x^6 + \sqrt{x^{14} + \sqrt{x^{30} + \dots}}}}} dx$$
11.
$$\int_0^{3/2} \frac{1}{x + \frac{1}{x + \dots}} dx$$
12.
$$\int_0^\pi \frac{6 + 6 \cos^2 x}{1 + 3 \sin^2 x} dx$$
13.
$$\int_0^1 \sqrt{x + x^3} + \sqrt{x + \sqrt[3]{x}} dx$$
14.
$$\int_0^{\frac{\pi}{4}} \sum_{n=2}^\infty \left(\frac{1}{\sqrt{n - \sec^2(x)}} - \frac{1}{\sqrt{n - \tan^2(x)}} \right) dx$$
15.
$$\int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \frac{4 \log^2(\csc^2 x)}{\tan x} dx$$



16. $\int e^{17x} (\cos^3 x - 3 \sin^2 x \cos x) dx$

17. $\int e^{x \tan^{-1}(x)} \frac{\tan^{-1}(x)}{\sqrt{x^2 + 1}} dx$

18. $\int_0^\varphi e^{x - \frac{1}{x}} (x + 1)^2 dx$

19. $\int \frac{1}{x^5 + x^3} - \frac{3 \tan^{-1}(x)}{x^4} dx$

20. $\int_0^{\frac{\pi}{4}} \frac{1}{\sqrt[4]{2} + \sqrt{1 + \tan(x)}} dx$