

$$\textcircled{22} \int \sinh^6 x \cosh x dx = \frac{\sinh^7 x}{7} + c$$

$$\textcircled{23} \int \sqrt{\tanh x} \operatorname{sech}^2 x dx = \int (\tanh x)^{\frac{1}{2}} \operatorname{sech}^2 x dx = \frac{(\tanh x)^{\frac{3}{2}}}{\frac{3}{2}} + c$$

EXERCISES

find the integrals

$$\textcircled{1} \int \left(\frac{x}{x^{3/4}} - \sqrt[3]{x} + 4\sqrt{x} \right) dx \quad \textcircled{2} \int \left(\frac{2}{x^2} - \frac{4}{x^3} \right) dx \quad \textcircled{3} \int (2+x^2)^2 dx$$

$$\textcircled{4} \int \frac{(\ln x^2)^2}{x} dx \quad \textcircled{5} \int \frac{dx}{(\frac{1}{3}x-8)^5} \quad \textcircled{6} \int \frac{(\sqrt{x}+2)^8}{\sqrt{x}} dx \quad \textcircled{7} \int \sqrt{5x+3} dx$$

$$\textcircled{8} \int \frac{\cos(\ln x)}{x} dx \quad \textcircled{9} \int x \cos(3x^2) dx \quad \textcircled{10} \int \frac{\operatorname{sch}(\frac{5}{x})}{x^2} dx \quad \textcircled{11} \int \frac{\sin \sqrt{x}}{\sqrt{x}} dx$$

$$\textcircled{12} \int \frac{x \sin \sqrt{2x^2-5}}{\sqrt{2x^2-5}} dx \quad \textcircled{13} \int \left(\frac{x^2 \sin x + 2 \sin x}{2+x^2} \right) dx \quad \textcircled{14} \int \frac{\sec x}{\cos x} dx$$

$$\textcircled{15} \int \frac{\sec^2(\sqrt{x})}{\sqrt{x}} dx \quad \textcircled{16} \int \sec^2(\sin 5x) \cos(5x) dx \quad \textcircled{17} \int \frac{\cos^3 x - 5}{\cos^2 x} dx$$

$$\textcircled{18} \int \frac{dx}{\csc(2x)} \quad \textcircled{19} \int e^{4x} \sec(e^{4x}) \tan(e^{4x}) dx \quad \textcircled{20} \int (1 + \sin 3x)^9 \cos 3x dx$$

$$\textcircled{21} \int \frac{\sin x}{\cos^2 x} dx \quad \textcircled{22} \int \frac{\sin 2x}{\sqrt{1-\frac{3}{2}\cos 2x}} dx \quad \textcircled{23} \int \sqrt{\sin \pi x} \cos \pi x dx$$

$$\textcircled{24} \int \sin^5(3x) \cos(3x) dx \quad \textcircled{25} \int \sqrt{\tan x} \sec^2 x dx \quad \textcircled{26} \int \frac{\sin 2x}{(5+\cos 2x)^3} dx$$

$$\textcircled{27} \int \frac{\cot^2 x}{\sin^2 x} dx \quad \textcircled{28} \int \frac{\cosh(\sqrt{x})}{\sqrt{x}} dx \quad \textcircled{29} \int \operatorname{csch}^2(3x) dx \quad \textcircled{30} \int \tanh^2 x dx$$

$$\textcircled{31} \int \operatorname{coth}^2 x \operatorname{csch}^2 x dx \quad \textcircled{32} \int \tanh x \operatorname{sech}^3 x dx \quad \textcircled{33} \int \sinh^5 x \cosh x dx$$