

ANTIDERIVATES Additional Set 1

$$(1) \int x(x^2-2)^{15} dx$$

$$(10) \int \sin 2x \sqrt[3]{\cos 2x} dx$$

$$(2) \int \sqrt[4]{x+5} dx$$

$$(11) \int \frac{\csc^2 x}{\cot^2 x} dx$$

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

$$(12) \int \frac{x \sec^2(x^2)}{\sqrt[4]{\tan(x^2)}} dx$$

$$(4) \int x^3 \cos(x^4-2) dx$$

$$(13) \text{ Solve } \frac{dy}{dx} = \frac{2x}{(x^2+1)^2}$$

where $y(0) = 1$.

$$(5) \int \cos x \sqrt[4]{\sin(x)} dx$$

$$(14) \text{ Solve } \frac{dy}{dx} = (4x^3+3x) \sqrt{x^4+\frac{3x^2}{2}+1}$$

where $y(0) = \frac{3}{2}$

$$(6) \int x^2 \sin(x^3) dx$$

$$(7) \int x^3 \sqrt[3]{x^4+2} dx$$

$$(8) \int \frac{2x+1}{(x^2+x+1)^2} dx$$

$$(9) \int \frac{\sin 2x}{\sqrt[3]{\cos 2x+2}} dx$$

ANTIDERIVATIVES Additional Set 2

$$(1) \int (2x+2) e^{x^2+2x+3} dx$$

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

$$(3) \int (2x+5)(x^2+5x)^7 dx$$

$$(4) \int (3-x)^{10} dx$$

$$(5) \int \sqrt{7x+9} dx$$

$$(6) \int \frac{x^3}{(1+x^4)^{1/3}} dx$$

$$(7) \int e^{5x+2} dx$$

$$(8) \int 4 \cos(3x) dx$$

$$(9) \int \frac{\sin(\ln x)}{x} dx$$

$$(10) \int \frac{3x+6}{x^2+4x-3} dx$$

$$(11) \int x 3^{x^2+1} dx$$

$$(12) \int \frac{3}{x \ln x} dx$$

$$(13) \int \frac{\cos(5x)}{e^{\sin(5x)}} dx$$

$$(14) \int x \sin(x^2) dx$$

ANTIDERIVATIVES ADDITIONAL SET 3

$$\textcircled{1} \int \cos^3 x \sin x \, dx$$

$$\textcircled{9} \int \cos x \cdot \cos(\sin x) \, dx$$

$$\textcircled{2} \int -2x \sqrt{4-x^2} \, dx$$

$$\textcircled{10} \int \frac{e^{2/x}}{x^2} \, dx$$

$$\textcircled{3} \int 2t^2 \sqrt{1-4t^3} \, dt$$

$$\textcircled{11} \int (4x^4 - x^2 + 1) \, dx$$

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

$$\textcircled{12} \int (x^5 + \sin x) \, dx$$

$$\textcircled{5} \int 3 \sin\left(\frac{x}{2}\right) \, dx$$

$$\textcircled{13} \frac{d}{dx} \int \sqrt{\cos(2x)} \, dx$$

$$\textcircled{6} \int e^x \cos(1-e^x) \, dx$$

$$\textcircled{14} \int x^2(x-5) \, dx$$

$$\textcircled{7} \int \frac{(\ln x)^4}{x} \, dx$$

$$\textcircled{8} \int \frac{\sec(3x) \tan(3x)}{\sqrt[3]{2+\sec(3x)}} \, dx$$