

1. What is $\int \frac{1}{\sqrt{4x^2-1}} dx$?

$-\frac{4x}{(4x^2-1)^{3/2}} + \text{constant}$

$-\frac{1}{2} \ln(\sqrt{4x^2-1} + 2x)$
+ constant

$\frac{\ln(\sqrt{4x^2-1} + 2x)}{2x} + \text{constant}$

$\frac{1}{2} \ln(\sqrt{4x^2-1} + 2x) + \text{constant}$

2. What is $\int \frac{3}{2} e^{5t-5} dt$?

$\frac{3}{2} e^{5t-5} + \text{constant}$

$\frac{3}{10} e^{5t-5} + \text{constant}$

$\frac{15}{2} e^{5t-5} + \text{constant}$

$\frac{105}{2} e^{5t-5} + \text{constant}$

3. Find the integral of $\frac{2}{9} \sin(6t + 1)$ with respect to t .

- $-\frac{1}{27} \cos(6t + 1) + \text{constant}$
- $-\frac{2}{9} \cos(6t + 1) + \text{constant}$
- $-\frac{4}{3} \cos(6t + 1) + \text{constant}$
- $\frac{1}{27} \cos(6t + 1) + \text{constant}$

4. What is $\int -\frac{1}{\sqrt{x^2+9}} dx$?

- $-\frac{\ln(\sqrt{x^2+9} + x)}{x} + \text{constant}$
- $\frac{x}{(x^2+9)^{3/2}} + \text{constant}$
- $-x \ln(\sqrt{x^2+9} + x) + \text{constant}$
- $-\ln(\sqrt{x^2+9} + x) + \text{constant}$