

### Integration Practice

1.  $\int \frac{t^2 \cos(t^3 - 2)}{\sin^2(t^3 - 2)} dt$

2.  $\int \frac{3}{3x - 1} dx$

3.  $\int \frac{x}{x^2 + 4} dx$

4.  $\int \frac{1}{4 - 3(x - 2)^2} dx$

5.  $\int \frac{6}{x^2 + 5} dx$

6.  $\int \frac{x - 1}{x^2 + 3} dx$

7.  $\int \frac{x - 1}{x^2 - 3} dx$

8.  $\int xe^{2x} dx$

9.  $\int \sin^3(2t) dt$

10.  $\int x \sin(4x) dx$

11.  $\int \sin^{-1}(x) dx$

12.  $\int \frac{Ax + B}{x^2 + 1} dx$  (Assume  $A, B$  are constants)

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

14.  $\int \frac{2}{\sqrt{9 - 5x^2}} dx$

15.  $\int \frac{3}{3x^2 + 1} dx$

16.  $\int \frac{1}{x^3 + x^2 - 2x} dx$

17.  $\int \frac{x^2 + 3}{x^3 + 2x} dx$

18.  $\int x^3 \sqrt{x^2 + 4} dx$

19.  $\int \sqrt{2x - x^2} dx$

20.  $\int \frac{u^3 + 1}{u^3 - u^2} du$