

Unit 6 Integrals Review

Integrate.

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

2. $\int x^3 \cos(2x^4 - 1) dx$

3. $\int_0^2 2x(x^2 + 1)^3 dx$

4. $\int_{-1}^1 \frac{x^2}{\sqrt{x^3 + 9}} dx$

5. $\int \frac{1}{4x^2 + 25} dx$

6. $\int_{-\pi/2}^{\pi/6} \frac{\cos x}{1 - \sin x} dx$

7. $\int \frac{3}{4 + 9x^2} dx$

8. $\int \frac{4x - 8x^4}{4x^4} dx$

9. $\int_{\pi/4}^{\pi/2} \cot x \csc^2 x dx$

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

11. $\int_0^{\pi/2} \frac{\sin x}{(3 + 2 \cos x)^2} dx$

12. $\int \frac{dx}{\sqrt{25 - (x + 2)^2}}$

Integrate.

13. $\int \sec 4x \tan 4x dx$

14. $\int_{\pi/4}^{\pi/2} (1 + e^{\cot x}) \csc^2 x dx$

15. $\int_0^1 3x^2(x^3 + 1)^3 dx$

16. $\int \frac{\sin 3x}{1 + \cos 3x} dx$

17. $\int \tan^3 5x \sec^2 5x dx$

18. $\int \frac{y}{\sqrt{y^2 + 1}} dy$

19. $\int_0^{\pi/3} 4 \sec x \tan x dx$

20. $\int 5^{\cot x} \csc^2 x dx$

21. $\int (1 + \sin x)^9 \cos x dx$

22. $\int \frac{1}{\sqrt{9 - x^2}} dx$

23. $\int_2^1 (4 - 3x)^8 dx$

24. $\int \frac{6x}{(3x^2 + 1)^5} dx$