

AP Calculus: Integration with In and U-sub

Simplify the following indefinite integrals:

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

2. $\int \sec x \tan x dx$

3. $\int \frac{\sqrt{x}-\sqrt[5]{x}}{x} dx$

4. $\int \frac{(x^2-2)}{\sqrt[5]{x}} dx$

5. $\int \frac{x}{x+1} dx$

6. $\int \frac{2x}{\sqrt{1+x}} dx$

7. $\int \sin 3x dx$

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

9. $\int \sec x dx$

10. $\int \frac{x+1}{x} dx$

11. $\int \frac{8}{3+4x} dx$

12. $\int \frac{8x}{3+4x} dx$

13. $\int \frac{8}{\sqrt{3+4x}} dx$

14. $\int \frac{3x^3-6x+5}{x+2} dx$

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

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

17. $\int 9x^2(3x^3-3)^{-2} dx$

18. $\int \frac{\ln(x)^3}{x} dx$

19. $\int \frac{(1+\ln x)^2}{x} dx$

20. $\int -\tan x dx$

21. $\int e^{-x} \sqrt{7+e^{-x}} dx$

22. $\int \frac{6e^{2x}-e^x}{e^x} dx$

23. $\int \frac{e^x+e^{-x}}{e^x-e^{-x}} dx$

24. $\int 5x^2 e^{6x^3} dx$