

Math 122 Section 003/S03 – Anti-derivatives

1. Find the following integral $\int x^4 dx$
2. Find the following integral $\int x^5 + 5x^3 + 27x dx$
3. Find the following integral $\int 3x^2 + x + 15 dx$
4. Find an antiderivative of the following function: $f(x) = -3/(x^2)$
5. Find an antiderivative of the following function: $f(x) = 1/\sqrt{t}^{12}$
6. Find an antiderivative of the following function: $f(x) = 12x/\sqrt{x}$
7. Find an antiderivative of $f(x) = 3x^2 - 7x + 4$ that satisfies $F(0) = 9$.
8. Find an antiderivative of $f(x) = x^3/3 + 3/x$ so that $F(0) = 1$.
9. Find an antiderivative, $F(x)$, of $f(x) = 2/x - 5/x^5$ that satisfies $F(1) = 29$.
10. Find the antiderivative of $f(x) = 3^x$
11. Find the antiderivative of $f(x) = 12^x - 7/2x$
12. Find the antiderivative of $f(x) = 2^x + 2x$
13. Find the following integral $\int e^x dx$
14. Find the following integral $\int e^{-18x} dx$
15. Find the following integral $\int 2e^{-1/4x} dx$
16. Find the antiderivative $\int (8x^2 + 4x + 10)^{12} (16x + 4) dx$

17. Find the antiderivative $\int (5x^2+12x+2)^4(10x+12) \, dx$

18. Find the antiderivative $\int (2x^3+20x+25)^5(6x^2+20) \, dx$

19. Find the following integral $\int (26x)^{2(13x^2)-4} \, dx$

20. Find the following integral $\int 7^{2x+4} \, dx$

21. Find the following integral $\int (3x^2)^{4(x^3)+4} \, dx$

22. Find the following integral $\int 2x/(x^2+4) \, dx$

23. Find the following integral $\int 4x^3/(x^4+1) \, dx$

24. Find the following integral $\int t^2/(1+t^3) \, dt$