

First Fundamental Theorem of Calculus

Evaluate each definite integral exactly. Show an antiderivative and upper minus lower.

1. $\int_1^2 6 \cdot x^5 + 4 \cdot x^4 - 5 \cdot x^3 + 6 \cdot x^2 + 2 \cdot x + 3 \, dx$

2. $\int_{-1}^{-2} 5 \cdot x^3 + 3 \cdot x^2 - 4 \cdot x - 6 \, dx$

3. $\int_0^{-3} x^4 + 4 \cdot x^3 + 4 \cdot x^2 + x + 5 \, dx$

4. $\int_{-5}^{-4} 3 - 5 \cdot x^{-1} + 3 \cdot x^{-2} \, dx$

5. $\int_{\frac{5}{18}\pi}^{\frac{-1}{12}\pi} 3 \cdot \sin(3 \cdot x) \, dx$

6. $\int_{-1}^1 -4 \cdot e^{2 \cdot x} \, dx$

7. $\int_1^0 -6 \cdot x^3 + 3 \cdot x \, dx$

8. $\int_{-1}^2 6 \cdot (4)^{3 \cdot x} \, dx$

First Fundamental Theorem of Calculus

Evaluate each definite integral exactly. Show an antiderivative and upper minus lower.

9. $\int_1^{-1} -x^5 - 2x^4 - 4x^3 + x \, dx$

10. $\int_1^3 6x^4 + 3x^3 - 4x^2 + x + 6 \, dx$

11. $\int_{-\frac{5}{3}\pi}^{\frac{5}{4}\pi} 5 \cos(x) \, dx$

12. $\int_5^1 5x^2 + 2x - 5x^{-4} \, dx$

13. $\int_1^5 6x^{-1} - 3x^{-4} \, dx$

14. $\int_{-1}^{-2} -4 \cdot e^{2x} \, dx$

15. $\int_2^3 -x^3 + x^2 \, dx$

16. $\int_{-\frac{1}{12}\pi}^{-\frac{7}{18}\pi} 5 \sin(3x) \, dx$
