6.2 Exercises

In Exercises 1–50, find the indefinite integral.

1. $\displaystyle\int 4(4x + 3)^4 \, dx$

2. $\displaystyle\int 4x(2x^2 + 1)^7 \, dx$

3. $\displaystyle\int (x^3 - 2x)^2 (3x^2 - 2) \, dx$

4. $\displaystyle\int (3x^2 - 2x + 1)(x^3 - x^2 + x)^4 \, dx$

5. $\displaystyle\int \frac{4x}{(2x^2 + 3)^3} \, dx$

6. $\displaystyle\int \frac{3x^2 + 2}{(x^3 + 2x)^2} \, dx$

7. $\displaystyle\int 3t^2 \sqrt{t^3 + 2} \, dt$

8. $\displaystyle\int 3t^2 (t^3 + 2)^{3/2} \, dt$

9. $\displaystyle\int 2(x^2 - 1)^9 x \, dx$

10. $\displaystyle\int x^2 (2x^3 + 3)^4 \, dx$

11. $\displaystyle\int \frac{x^4}{1 - x^5} \, dx$

12. $\displaystyle\int \frac{x^2}{\sqrt{x^3 - 1}} \, dx$

13. $\displaystyle\int \frac{2}{x - 2} \, dx$

14. $\displaystyle\int \frac{x^2}{x^3 - 3} \, dx$

15. $\displaystyle\int \frac{0.3x - 0.2}{0.3x^2 - 0.4x + 2} \, dx$

16. $\displaystyle\int \frac{2x^2 + 1}{0.2x^3 + 0.3x} \, dx$

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

18. $\displaystyle\int \frac{x^2 - 1}{x^3 - 3x + 1} \, dx$

19. $\displaystyle\int e^{-2x} \, dx$

20. $\displaystyle\int e^{-0.02x} \, dx$

21. $\displaystyle\int e^{2-x} \, dx$

22. $\displaystyle\int e^{2t+3} \, dt$

23. $\displaystyle\int xe^{-x^2} \, dx$

24. $\displaystyle\int x^2 e^{x^3 - 1} \, dx$

25. $\displaystyle\int (e^x - e^{-x}) \, dx$

26. $\displaystyle\int (e^{2x} + e^{-3x}) \, dx$