EXERCISES

Find the following integrals. Check your answer by differentiating.

1. $\displaystyle\int (6x^2 - 4x + 3)\,dx$

2. $\displaystyle\int (4x^3 - 7x^2 + 3x - 5)\,dx$

3. $\displaystyle\int (2x^4 + 3x^3 - 5x^2 - 2x + 1)\,dx$

4. $\displaystyle\int (2x^4 + 6x^3 + 7x^2 - 4x + 1)\,dx$

5. $\displaystyle\int (5x^2 - 7x + 6)\,dx$

6. $\displaystyle\int (6x^3 - 6x^2 + 8x - 2)\,dx$

7. $\displaystyle\int (3x^{-2} + 4x^{-3} + 6)\,dx$

8. $\displaystyle\int (5x^{3/2} + 2x^{1/2} - 7x + 3)\,dx$

9. $\displaystyle\int (7x^{-3} + 3x^{-1/2} - 5x^{-3/2} - 6)\,dx$

10. $\displaystyle\int (3x^{-1} + 4e^{2x} + 5x - 6)\,dx$

11. $\displaystyle\int (7e^{3x} - 2x^{-1} + x + 3)\,dx$

12. $\displaystyle\int (2e^{-3x} - 4x^{-1} + 5)\,dx$

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

14. $\displaystyle\int \left(4\sqrt{x} + 3\sqrt[3]{x^2} - \frac{4}{x^2} - \frac{3}{x} + 2 \right) dx$

15. $\displaystyle\int \left(\frac{5}{x^3} - \frac{2}{x} + \frac{3}{\sqrt{x}} + x + 1 \right) dx$

16. $\displaystyle\int \left(\frac{1}{e^x} + \frac{1}{x} + \frac{1}{x^2} + \frac{1}{\sqrt{x}} + 3 \right) dx$

17. $\displaystyle\int \frac{x^2 + 5x + 1}{x}\,dx$

18. $\displaystyle\int \frac{3x^3 - 7x^2 + 4x - 1}{x}\,dx$

19. $\displaystyle\int \frac{2x^2 - 3x + 5}{x^2}\,dx$

20. $\displaystyle\int \frac{4x^3 - 8x^2 + 3x - 4}{2x^2}\,dx$