

Section 5.4 Practice Problems

1. Evaluate $I = \int \frac{1}{x} + \frac{1}{x^{5/4}} + \frac{1}{x^{3/4}} dx$
2. Evaluate $I = \int \frac{1}{\sqrt{x}} + \sqrt{x} dx$
3. Evaluate $I = \int 3x^2 + 8x^3 - 7x^8 + \frac{2}{x^3} dx$
4. Evaluate $I = \int \cos(r) dr$
5. Evaluate $I = \int t^2 dt$
6. Evaluate $I = \int dx$
7. Evaluate $I = \int dy$
8. Evaluate $I = \int dz$
9. Evaluate $I = \int \frac{2}{1+x^2} + \frac{3}{\sqrt{1-x^2}} dx$
10. Evaluate $I = \int e^x + \sinh x dx$
11. Evaluate $I = \int \frac{5}{7}x^{7/5} + \frac{5}{7}x^{5/7} + \frac{5}{7}x^{-5/7} dx$
12. An object travels in a straight line with velocity $v(t) = 4 - 3t$ ft/s in the time interval $[0, 5]$ s. Find its displacement and the distance it travelled.
13. An object travels in a straight line with velocity $v(t) = \sin t$ ft/s in the time interval $[0, 5]$ s. Find its displacement and the distance it travelled.