

Problem Set 83

2. $a + b = 1$

4. $a = 1; \quad b = -1$

6.

8. $\frac{2}{15}\pi \text{ units}^3$

10. $\frac{1}{8}x + \frac{1}{16}\sin(2x) + C$

12. $-\frac{1}{3}\cos^3 x + \frac{1}{5}\cos^5 x + C$

14. $\pi e^{\sin x} + C$

16. $\frac{3}{2}$

18. e^x

20. -3

22. $\int_{-1}^1 \sqrt{1-y^2} dy = \frac{\pi}{2}$

24. A