

Section 5.3

3. $g'(2) = 4, g'(5) = -2$ 14. $\frac{\sqrt{x}}{2(x^2+1)}$ 42. $\frac{\pi}{3}$

Section 5.4

16. $\tan t + \sec t + C$ 36. $\sqrt{2} - 1$ 60. a) $\frac{2}{3}$ m b) 4 m

Section 5.5

12. $\frac{1}{2} \tan(2\theta) + C$ 28. $-e^{\cos t} + C$ 40. $-\arctan(\cos x) + C$ 42. $\sin(\ln t) + C$
 46. $\frac{2}{7}(2+x)^{7/2} - \frac{8}{5}(2+x)^{5/2} + \frac{8}{3}(2+x)^{3/2} + C$ 68. $\frac{10}{3}$

Chapter 5 Review

8. a) $e^{\pi/4} - 1$ b) 0 c) $e^{\arctan x}$

Section 6.1

22. $\frac{1}{2}$ 24. $2\sqrt{3} + \frac{\pi}{3}$

Section 6.2

14. $\pi(2\sqrt{2} - \frac{3}{2})$ 30.* $\int_0^1 \pi[(1-x)^2 - (1-\sqrt[4]{x})^2] dx$ 58. 2

Section 7.1

12. $y \arctan(2y) - \frac{1}{4} \ln(4y^2 + 1) + C$ 58. $3e^{-1} - 1$

Section 7.2

4. $\frac{8}{15}$ 12. $\frac{9\pi}{4} - 4$

Additional Problems:

1. $\frac{\pi^3 + 6\pi - 48}{96}$ 2. (a) $\frac{3}{4} + \frac{\pi}{8} - \ln 2$ (b) $\frac{5\pi}{4} - \frac{\pi^2}{8}$