

1. $\sin^{-1} \frac{x}{4} + C$	5. $40/3$	8(b) $\ln \left  \frac{\sqrt{x^2+4}+x}{2} \right  + C$ or $\ln \left  \sqrt{x^2+4}+x \right  + C$
2. $\frac{1}{2} \sin^{-1} \frac{x^2}{3} + C$	6. $\frac{1}{5} \tan^{-1} \frac{x}{5} + C$	
3. $-\frac{1}{2} \sqrt{9-x^4} + C$	7. $\frac{1}{2} \ln(x^2+25) + C$	9. $-\frac{\sqrt{x^2+4}}{4x} + C$
4. $2 \sin^{-1} \frac{x}{2} + \frac{x\sqrt{4-x^2}}{2} + C$		10(b) $\frac{1}{2}(\sqrt{2} + \ln(\sqrt{2}+1))$

## Review Sheet for Test #1 - Answers

## Textbook Chapter 5 Review

14. $\left. \left( \frac{2}{3} u^{3/2} + \frac{8}{5} u^{5/4} + u \right) \right _0^1 = \frac{49}{15}$	26. $\frac{2}{81}$
16. $(\tan^{-1} x) \Big _0^1 = \pi/4$	28. $-\sin(\cos x) + C$
18. $\frac{2}{3\pi}$ , where $u = 3\pi t$	30. $\frac{1}{2} \sin^{-1}(x^2) + C$
20. $-\frac{\ln 4}{3}$	32. $x \tan^{-1} x - \frac{1}{2} \ln(1+x^2) + C$
22. $4 \ln 2 - \frac{15}{16}$	

## Additional Integrals

1. $\frac{1}{2} \ln(x^2+16) + C$	8. $\frac{24}{7} \ln x+5  + \frac{11}{7} \ln x-3  + C$
2. $\frac{1}{4} \tan^{-1} \frac{x}{4} + C$	9. $\frac{(1+\sqrt{t})^{10}}{5} + C$
3. $\frac{1}{8} \tan^{-1} \frac{x^2}{4} + C$	10. $2(\sqrt{x} e^{\sqrt{x}} - e^{\sqrt{x}}) + C$
4. $\frac{x^3}{3} \ln x - \frac{x^3}{9} + C$	11. $-x^2 \cos x + 2x \sin x + 2 \cos x + C$
5. $-\cos x + \frac{\cos^3 x}{3} + C$	12. $2 \ln x-3  + \frac{3}{2} \ln(x^2+4) - \frac{1}{2} \tan^{-1} \frac{x}{2} + C$
6. $\frac{1}{2} (\sin^{-1} x - x\sqrt{1-x^2}) + C$	13. $x + \ln x-1  - \ln x  + C$
7. $\frac{1}{2} \ln(x^2+9) + \frac{5}{3} \tan^{-1} \frac{x}{3} + C$	14. $2 \left[ \frac{(x-5)^{5/2}}{5} + \frac{5(x-5)^{3/2}}{3} \right] + C$