

HW #8 Final Answers

1.  $\frac{1}{6} \left[ \operatorname{arcsec}\left(\frac{x}{3}\right) - \frac{3\sqrt{x^2-9}}{x^2} \right] + C$

2.  $\frac{1}{16} \left[ \frac{\sqrt{x^2-16}}{x} \right] + C$

3.  $\arcsin\left(\frac{x+2}{\sqrt{8}}\right) + C$

4.  $\frac{\pi}{6\sqrt{3}}$

5.  $2 \left[ \arcsin\left(\frac{x+1}{2}\right) + \frac{(x+1)\sqrt{4-(x+1)^2}}{4} \right] + C$

6.  $\frac{1}{2} \ln|(x+1)^2+4| + \frac{3}{2} \arctan\left(\frac{x+1}{2}\right) + C$

7.  $\frac{\pi}{\sqrt{3}}$

8.  $-\ln 10$

9.  $\ln\left(\frac{3}{8}\right)$  or  $-\ln\left(\frac{8}{3}\right)$

10.  $-\frac{\arctan x}{x} + \ln|x| - \frac{1}{2} \ln|x^2+1| + C$

11.  $\ln 2$

12.  $\ln|x-1| - \frac{1}{2} \ln|x^2+9| - \frac{1}{3} \arctan\left(\frac{x}{3}\right) + C$