

(Probable) Answers to HW3

$$\textcircled{1} -\frac{\sqrt{a^2-x^2}}{a} - \sin^{-1}\left(\frac{x}{a}\right) + C$$

$$\textcircled{2} \frac{1}{2a^3} \tan^{-1}\left(\frac{x}{a}\right) + \frac{1}{2a} \left(\frac{x}{a^2+x^2}\right) + C$$

$$\textcircled{3} -\frac{1}{3} \sqrt{9-x^2} (18+x^2) + C \quad (\text{after some algebra})$$

$$\textcircled{4} -\frac{1}{a} \ln \left(\frac{\sqrt{a^2+x^2} + a}{x} \right) + C$$

$$\textcircled{5} \tan^{-1}(x+2) + C$$

$$\textcircled{6} \sqrt{(x+2)^2+1} - 3 \ln \left(\sqrt{(x+2)^2+1} + x + 2 \right) + C$$

$$\textcircled{7} \sin^{-1}(x-3) + C$$

$$\textcircled{8} \ln \sqrt{(x+1)^2+4} + \frac{3}{2} \tan^{-1}(x+1) + C$$