Inverse Trig Functions Review

Find each of the following.

1. $\arccos 1$

2. $\arcsin \frac{\sqrt{3}}{2}$

3. $\sin\left(\arccos \frac{5}{13}\right)$

4. $\tan\left(\arcsin \frac{\sqrt{2}}{2}\right)$

5. $\frac{d}{dx}[\arccos x]$

6. $\frac{d}{dx}[\operatorname{arccsc} x]$

7. $\frac{d}{dx}[\operatorname{arccot} x]$

8. $\int \frac{1}{\sqrt{a^2 - x^2}}\, dx$

9. $\int \frac{1}{a^2 + x^2}\, dx$

10. $\int \frac{1}{x\sqrt{x^2 - a^2}}\, dx$

11. $\frac{d}{dx}[\arcsin(9x)]$

12. $\frac{d}{dx}[\operatorname{arcsec}(x^2)]$

13. $\frac{d}{dx}\left[\operatorname{arccot}(\sqrt{x})\right]$

14. $\int \frac{1}{9 + x^2}\, dx$

15. $\int \frac{1}{x\sqrt{9x^2 - 1}}\, dx$

16. $\int_0^{1/4} \frac{1}{\sqrt{1-4x^2}}\,dx$

17. $\int_3^5 \frac{1}{x^2-4x+13}\,dx$