1 Section 5

1.1 377/5-12, 17-27 odds (Section 5.6, day 1)

5. Find the arcsin of $\frac{1}{2}$ without using a calculator.

$$\arcsin \frac{1}{2} = \frac{\pi}{6}$$

6. $\arcsin 0 = 0$

7. $\arccos \frac{1}{2} = \frac{\pi}{3}$

8. $\arccos 0 = \frac{\pi}{2}$

9. $\arctan \frac{\sqrt{3}}{3} = \frac{\pi}{6}$

10. $\operatorname{arccot}(-\sqrt{3}) = -\frac{\pi}{6}$

11. $\operatorname{arccsc}\left(-\sqrt{2}\right) = \arcsin \frac{1}{(-\sqrt{2})} = -\frac{\pi}{4}$

12. $\arccos\left(-\frac{\sqrt{3}}{2}\right) = \frac{5\pi}{6}$

17. Evaluate without using a calculator:

    (a)
    $$\sin\left(\arctan \frac{3}{4}\right) = \frac{3}{5}$$

    (b)
    $$\sec\left(\arcsin \frac{4}{5}\right) = \frac{5}{3}$$

21. Write in "Algebraic" form.
    $$\cos\left(\arcsin 2x\right) = 2x$$

23. Write in "Algebraic" form.
    $$\sin(\operatorname{arcsec} x) = \frac{\sqrt{x^2 - 1}}{|x|}$$

25. Write in "Algebraic" form.
    $$\tan\left(\operatorname{arcsec} \frac{x}{3}\right) = \frac{\sqrt{x^2 - 9}}{3}$$

27. Write in "Algebraic" form.
    $$\csc\left(\arctan \frac{x}{\sqrt{2}}\right) = \frac{\sqrt{x^2 + 2}}{x}$$