

## 2.1 Black book work

### EXERCISES 2-1

Find the exact values, if they exist, of  $\sin t$ ,  $\cos t$ , and  $\tan t$  for the given values of  $t$ .

- A**
- |                      |                        |                       |                       |
|----------------------|------------------------|-----------------------|-----------------------|
| 1. $\frac{2\pi}{3}$  | 2. $\frac{5\pi}{4}$    | 3. $\frac{7\pi}{6}$   | 4. $-\frac{\pi}{6}$   |
| 5. $-\frac{4\pi}{3}$ | 6. $3\pi$              | 7. $\frac{3\pi}{2}$   | 8. $\frac{5\pi}{6}$   |
| 9. $\frac{11\pi}{4}$ | 10. $-\frac{11\pi}{6}$ | 11. $\frac{14\pi}{3}$ | 12. $\frac{19\pi}{6}$ |

13-20. Find the exact values, if they exist, of  $\cot t$ ,  $\sec t$ , and  $\csc t$  for the values of  $t$  given in Exercises 1-8.

Find each value to four significant digits.

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|-------------------|-------------------|-------------------|
| 21. $\cos 1.20$   | 22. $\sin 0.65$   | 23. $\tan 1.00$   |
| 24. $\cos 1.02$   | 25. $\sin 2.16$   | 26. $\tan 3.50$   |
| 27. $\tan(-4.00)$ | 28. $\cos(-0.76)$ | 29. $\cot 4.00$   |
| 30. $\sec 5.00$   | 31. $\csc 7.00$   | 32. $\cot(-2.00)$ |

Find the number  $t$  to two decimal places.

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|---|--|
| 33. $\sin t = 0.65; -\frac{\pi}{2} < t < \frac{\pi}{2}$ | 34. $\cos t = 0.26; 0 < t < \pi$                         |
| 35. $\tan t = -1.23; 0 < t < \pi$                       | 36. $\sin t = -0.40; -\frac{\pi}{2} < t < \frac{\pi}{2}$ |
| 37. $\cos t = -0.75; \pi < t < 2\pi$                    | 38. $\tan t = 2.36; \pi < t < 2\pi$                      |
| <b>B</b> 39. $\cot t = -1.95; 0 < t < \pi$              | 40. $\sec t = 3.00; 0 < t < \pi$                         |

In Exercises 41-44, one of  $\sin t$  or  $\cos t$  is given. Find the other one and  $\tan t$ . Use  $\cos^2 t + \sin^2 t = 1$ .

41.  $\sin t = 0.72$  and  $0 < t < 1$ .  
 42.  $\cos t = -0.68$  and  $2 < t < 3$ .  
 43.  $\cos t = -0.25$  and  $4 < t < 5$ .  
 44.  $\sin t = 0.32$  and  $-4 < t < -3$ .