

1. On an interval of $[0, 2\pi)$, can the sine and cosine values of a radian measure ever be equal? If so, where?

3. For any angle in quadrant II, if you knew the sine of the angle, how could you determine the cosine of the angle?

For the following exercises, find the exact value of each expression.

6. $\tan \frac{\pi}{6}$

7. $\sec \frac{\pi}{6}$

8. $\csc \frac{\pi}{6}$

9. $\cot \frac{\pi}{6}$

10. $\tan \frac{\pi}{4}$

11. $\sec \frac{\pi}{4}$

12. $\csc \frac{\pi}{4}$

13. $\cot \frac{\pi}{4}$

For the following exercises, use reference angles to evaluate the expression.

18. $\tan \frac{5\pi}{6}$

19. $\sec \frac{7\pi}{6}$

20. $\csc \frac{11\pi}{6}$

21. $\cot \frac{13\pi}{6}$

22. $\tan \frac{7\pi}{4}$

23. $\sec \frac{3\pi}{4}$

24. $\csc \frac{5\pi}{4}$

25. $\cot \frac{11\pi}{4}$

30. $\tan 225^\circ$

31. $\sec 300^\circ$

32. $\csc 150^\circ$

33. $\cot 240^\circ$

38. If $\sin t = \frac{3}{4}$, and t is in quadrant II, find $\cos t$, $\sec t$, $\csc t$, $\tan t$, $\cot t$.

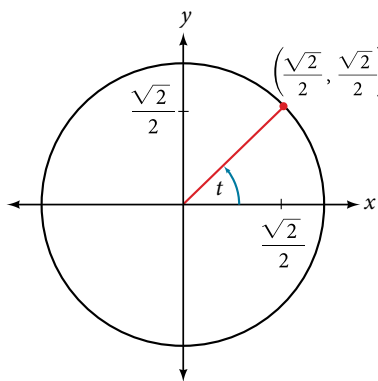
39. If $\cos t = -\frac{1}{3}$, and t is in quadrant III, find $\sin t$, $\sec t$, $\csc t$, $\tan t$, $\cot t$.

40. If $\tan t = \frac{12}{5}$, and $0 \leq t < \frac{\pi}{2}$, find $\sin t$, $\cos t$, $\sec t$, $\csc t$, and $\cot t$.

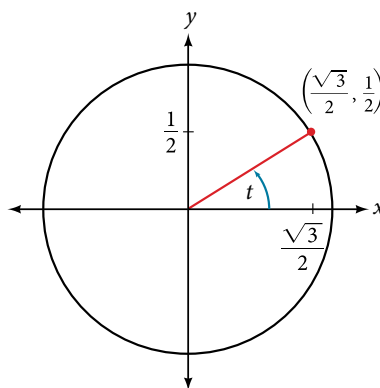
41. If $\sin t = \frac{\sqrt{3}}{2}$ and $\cos t = \frac{1}{2}$, find $\sec t$, $\csc t$, $\tan t$, and $\cot t$.

For the following exercises, use the angle in the unit circle to find the value of the each of the six trigonometric functions.

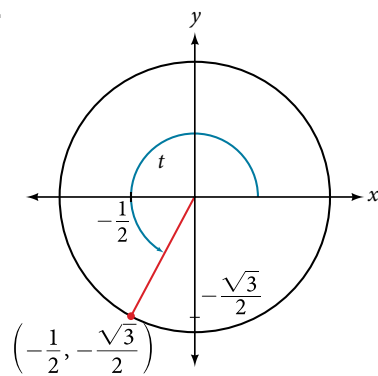
49.



50.



51.



For the following exercises, use a graphing calculator to evaluate.

52. $\csc \frac{5\pi}{9}$

53. $\cot \frac{4\pi}{7}$

54. $\sec \frac{\pi}{10}$

55. $\tan \frac{5\pi}{8}$

60. $\cot 140^\circ$

61. $\sec 310^\circ$