

For Problems 1 through 12, find the indicated function value correct to three or more decimal places.

1. $\sin 27.4^\circ$
2. $\sin 32.9^\circ$
3. $\cos 77.9^\circ$
4. $\cos 23.2^\circ$
5. $\tan 48.6^\circ$
6. $\tan 59.7^\circ$
7. $\cot 85.2^\circ$
8. $\cot 75.1$
9. $\sec 12.3^\circ$
10. $\sec 62.8^\circ$
11. $\csc 4.9^\circ$
12. $\csc 87.5^\circ$

For Problems 13 through 24, find the measure of the acute angle θ

- a. correct to three decimal places,
- b. correct to the nearest minute.

13. $\theta = \sin^{-1} 0.4791$
14. $\sin \theta = 0.9353$
15. $\theta = \cos^{-1} 0.9125$
16. $\cos \theta = 0.5271$
17. $\theta = \tan^{-1} 1.074$
18. $\tan \theta = 4.613$
19. $\cot \theta = 0.5234$
20. $\theta = \cot^{-1} 1.452$
21. $\sec \theta = 2.581$
22. $\theta = \sec^{-1} 3.000$
23. $\csc \theta = 1.062$
24. $\theta = \csc^{-1} 1.234$

For Problems 25 through 30, find θ by calculator and then find the given function of θ (Do *not* clear the calculator between steps!) Then confirm that your answer is right by sketching the angle and using the definitions of the trigonometric functions.

25. Find $\sin \theta$ if $\cos \theta = 3/5$.
26. Find $\cos \theta$ if $\tan \theta = 5/12$.
27. Find $\tan \theta$ if $\sec \theta = 7/3$.
28. Find $\cot \theta$ if $\sin \theta = 2/3$.
29. Find $\sec \theta$ if $\cos \theta = 3/8$.
30. Find $\csc \theta$ if $\sin \theta = 8/17$.

Answers

1. 0.460
2. 0.543
3. 0.210
4. 0.919
5. 1.134
6. 1.711
7. 0.084
8. 0.266
9. 1.023
10. 2.188
11. 11.707
12. 1.001
13. a. 28.627° b. $28^\circ 38'$
14. a. 69.277° b. $69^\circ 17'$
15. a. 24.147° b. $24^\circ 9'$
16. a. 58.190° b. $58^\circ 11'$
17. a. 47.043° b. $47^\circ 3'$
18. a. 77.769° b. $77^\circ 46'$
19. a. 62.372° b. $62^\circ 22'$
20. a. 34.555° b. $34^\circ 33'$
21. a. 67.204° b. $67^\circ 12'$
22. a. 70.529° b. $70^\circ 32'$
23. a. 70.325° b. $70^\circ 20'$
24. a. 54.132° b. $54^\circ 8'$
25. 0.8
26. 0.923
27. 2.108
28. 1.118
29. 2.666
30. 2.125