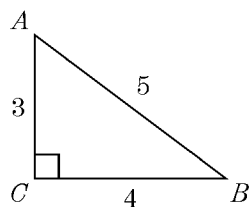


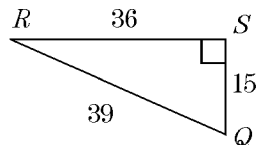
Find each of the following exactly. Leave answers in simplest radical form.

1. Find $\cos \angle A$.

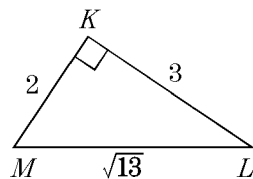


2. Find $\csc \angle A$.

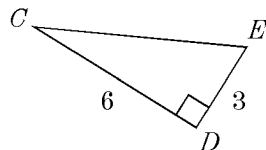
3. Find $\sin \angle R$.



4. Find $\csc \angle L$.

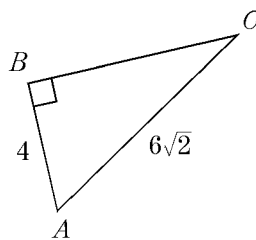


5. Find $\sin \angle C$.



6. Find $\cos \angle E$.

7. Find $\cos \angle C$.



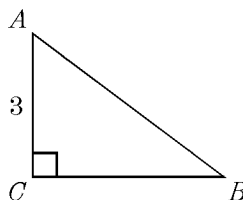
8. In $\triangle ABC$, $m\angle C = 90^\circ$, $AC = 3$, $BC = 4$, and $AB = 5$. Find $\cot \angle A$.

9. In $\triangle ABC$, $m\angle C = 90^\circ$, $AC = 3$, $BC = 4$, and $AB = 5$. Find $\sec \angle B$.

10. In $\triangle ABC$, $m\angle C = 90^\circ$, $AC = 3$, $BC = 4$, and $AB = 5$. Find $\sin \angle B$.

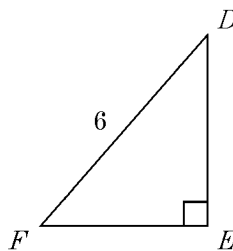
11. In $\triangle PQR$, $m\angle Q = 90^\circ$, $PQ = 1$, and $QR = 3$. Find $\sec \angle R$.

12. If $\sin \angle B = \frac{2}{3}$, find BC .



13. If $\cos \angle A = \frac{1}{3}$, find AB .

14. If $\sin \angle F = \frac{3}{4}$, find DE .



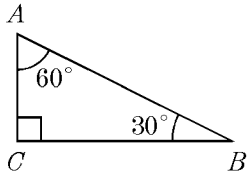
15. If $\cos \angle F = \frac{5}{12}$, find FE .

16. Find $\tan 60^\circ$.

17. Find $\csc 30^\circ$.

18. Find $\csc 60^\circ$.

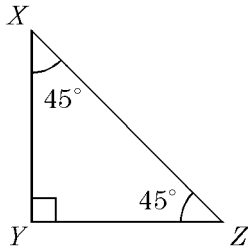
19. If $AC = \sqrt{6}$, find BC .



20. If $BC = \sqrt{3}$, find AB .

21. If $BC = 7$, find AB .

22. If $XY = 1$, find YZ .



Rewrite in radians.

23. 135°

24. 180°

25. 3°

Rewrite in degrees.

26. $\frac{3\pi}{2}$

27. $\frac{\pi}{10}$

28. $\frac{7\pi}{90}$

29. $-\frac{\pi}{3}$

Sketch each angle on coordinate axes.

30. 171°

31. $104^\circ 25'$

32. $350^\circ 40'$

Name the coterminal angle of the given angle.

33. 197°

34. 157°

35. 495°

36. The terminal side of an angle θ in standard position passes through the point $(5, 2)$. Find the six trigonometric functions for θ .

37. The terminal side of an angle β in standard position passes through the point $(-3, 6)$. Find the six trigonometric functions for β .

Find each trig. value to the nearest thousandth.

38. $\sec 135^\circ$

39. $\cot 135^\circ$

40. $\cos 150^\circ$

41. $\cos 225^\circ$

42. $\tan 300^\circ$

43. $\csc 270^\circ$

44. $\sec 240^\circ$

45. $\sec 390^\circ$

46. $\cot 360^\circ$

47. $\sin 495^\circ$

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

49. $\cot \frac{\pi}{3}$

50. $\sin \frac{\pi}{3}$

51. $\tan \frac{3\pi}{4}$

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

53. $\cot \frac{3\pi}{4}$

54. $\sin \frac{5\pi}{6}$

55. $\cos \frac{5\pi}{6}$

56. $\cot \pi$

57. $\tan \frac{7\pi}{6}$

58. $\sin \frac{5\pi}{3}$

Answers:

1. $\frac{3}{5}$

2. $\frac{5}{4}$

3. $\frac{5}{13}$

4. $\frac{\sqrt{13}}{2}$

5. $\frac{\sqrt{5}}{5}$

6. $\frac{\sqrt{5}}{5}$

7. $\frac{\sqrt{7}}{3}$

8. $\frac{3}{4}$

9. $\frac{5}{4}$

10. $\frac{3}{5}$

11. $\frac{\sqrt{10}}{3}$

12. $\frac{3\sqrt{5}}{2}$

13. 9

14. $\frac{9}{2}$

15. $\frac{5}{2}$

16. $\sqrt{3}$

17. 2

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

19. $3\sqrt{2}$

20. 2

21. $\frac{14\sqrt{3}}{3}$

22. 1

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

24. π

25. $\frac{\pi}{60}$

26. 270°

27. 18°

28. 14°

29. -60°

30. II, 9°

31. II, $75^\circ 35'$

32. IV, $9^\circ 20'$

33. -163°

34. 517°

35. 135°

36. $\sin \theta = \frac{2\sqrt{29}}{29}$

$\cos \theta = \frac{5\sqrt{29}}{29}$

$\tan \theta = \frac{2}{5}$

$\csc \theta = \frac{\sqrt{29}}{2}$

$\sec \theta = \frac{\sqrt{29}}{5}$

$\cot \theta = \frac{5}{2}$

37. $\sin \theta = \frac{2\sqrt{5}}{5}$

$\cos \theta = -\frac{\sqrt{5}}{5}$

$\tan \theta = -2$

$\csc \theta = \frac{\sqrt{5}}{2}$

$\sec \theta = -\sqrt{5}$

$\cot \theta = -\frac{1}{2}$

38. $-\sqrt{2}$

39. -1

40. $-\frac{\sqrt{3}}{2}$

41. $-\frac{\sqrt{2}}{2}$

42. $-\sqrt{3}$

43. -1

44. -2

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

46. Undefined

47. $\frac{\sqrt{2}}{2}$

48. $\frac{\sqrt{3}}{3}$

49. $\frac{\sqrt{3}}{3}$

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

51. -1

52. $-\sqrt{2}$

53. -1

54. $\frac{1}{2}$

55. $-\frac{\sqrt{3}}{2}$

56. Undefined

57. $\frac{\sqrt{3}}{3}$

58. $-\frac{\sqrt{3}}{2}$