

Convert the angle to decimal degrees and round to the nearest hundredth of a degree.

1) $31^{\circ}23'6''$

2) $295^{\circ}6'24''$

Convert the angle to degrees, minutes, and seconds.

3) 37.54°

4) 193.32°

Convert the degree measurement to radians. Express answer as multiple of π .

5) 480°

6) -144°

Convert the angle in degrees to radians. Express the answer in decimal form, rounded to two decimal places.

7) 310°

Convert the radian measure to degrees. (Round to the nearest hundredth when necessary)

8) $\frac{8\pi}{7}$

9) $\frac{43}{18}\pi$

Convert the angle in radians to degrees. Round to two decimal places.

10) 4

In the problem, t is a real number and $P=(x,y)$ is the point on the unit circle that corresponds to t . Find the exact value of the given trigonometric function.

11) $\left(\frac{5}{6}, \frac{\sqrt{11}}{6}\right)$; find $\sin t$

12) $\left(-\frac{\sqrt{21}}{5}, -\frac{2}{5}\right)$; find $\cot t$

13) $\left(-\frac{\sqrt{33}}{7}, \frac{4}{7}\right)$; find $\cos t$

A point on the terminal side of angle θ is given. Find the exact value of the given trigonometric function.

14) (12, 16); Find $\sin \theta$.

15) (2, -3); Find $\sin \theta$.

16) $\left(-\frac{1}{3}, \frac{1}{5}\right)$; Find $\cos \theta$.

Give the exact value.

17) $\sec 30^\circ$

Solve the problem.

18) Find the exact value of $\cos 60^\circ + \tan 60^\circ$. Do not use a calculator.

A) $\frac{1+2\sqrt{3}}{2}$

B) $\frac{3\sqrt{3}}{2}$

C) $\frac{1+\sqrt{3}}{2}$

D) $2\sqrt{3}$

19) Find the exact value of $\sin \frac{\pi}{3} - \cos \frac{\pi}{6}$. Do not use a calculator.

Find the exact value of the expression.

20) $\csc 30^\circ - \cos 30^\circ$

21) $\sec 30^\circ - \sin 45^\circ$

Find the exact value of the expression. Do not use a calculator.

22) $\cos \frac{14\pi}{3}$

23) $\sec \frac{19\pi}{4}$

24) $\sin 855^\circ$

Solve the problem.

25) Find the exact value of $\tan 150^\circ \cos 210^\circ$. Do not use a calculator.

Find the approximate value of the expression rounded to two decimal places.

26) $\sin 70^\circ$

27) $\tan 32^\circ$

28) $\cos \frac{5\pi}{12}$

29) $\sec \frac{\pi}{5}$

30) $\cot \frac{\pi}{7}$

Use the fact that the trigonometric functions are periodic to find the exact value of the expression.

31) $\cos \frac{10\pi}{3}$

32) $\sin 765^\circ$

33) $\tan \frac{13\pi}{4}$

Name the quadrant in which the angle θ lies.

34) $\tan \theta > 0$ and $\sin \theta < 0$

35) $\sin \theta > 0$ and $\cos \theta < 0$

36) $\cos \theta > 0$ and $\csc \theta < 0$

37) $\sec \theta < 0$ and $\tan \theta < 0$

Use the given values of the sine and cosine to find the function value.

38) $\sin \theta = -\frac{5}{7}$, $\cos \theta = \frac{-2\sqrt{6}}{7}$. Find $\tan \theta$.

39) $\sin \theta = -\frac{5}{7}$, $\cos \theta = \frac{2\sqrt{6}}{7}$. Find $\csc \theta$.

Find the exact value of the expression.

40) $\sec^2 65^\circ - \tan^2 65^\circ$

41) $\sin^2 25^\circ + \cos^2 25^\circ$

42) $\sin 55^\circ \csc 55^\circ$

Solve the problem.

43) Given $\sin \theta = \frac{1}{2}$ and $\sec \theta < 0$, find $\cos \theta$ and $\tan \theta$.

A) $\cos \theta = \sqrt{\frac{3}{2}}$, $\tan \theta = \frac{1}{\sqrt{3}}$

B) $\cos \theta = -\frac{\sqrt{3}}{2}$, $\tan \theta = -\frac{1}{\sqrt{3}}$

C) $\cos \theta = -\sqrt{3}$, $\tan \theta = -\frac{10}{\sqrt{3}}$

D) $\cos \theta = -\frac{\sqrt{3}}{2}$, $\tan \theta = \frac{1}{\sqrt{3}}$

Find the exact value of the requested trigonometric function of θ .

44) $\cos \theta = \frac{2}{5}$ and $\tan \theta < 0$

Find $\sin \theta$.

45) $\sec \theta = \frac{9}{8}$ and θ in quadrant IV

Find $\tan \theta$.

46) $\sin \theta = -\frac{2}{9}$ and $\tan \theta > 0$

Find $\sec \theta$.

Use the even-odd properties to find the exact value of the expression.

47) $\cos (-60^\circ)$

48) $\csc \left(-\frac{\pi}{3} \right)$

49) $\tan\left(-\frac{\pi}{3}\right)$

50) $\sin(-60^\circ)$

Answer Key

Testname: TRIG-REVIEW.TST

- 1) 31.39°
- 2) 295.11°
- 3) $37^\circ 32' 24''$
- 4) $193^\circ 19' 12''$
- 5) $\frac{8\pi}{3}$
- 6) $-\frac{4\pi}{5}$
- 7) 5.41
- 8) 205.71°
- 9) 430°
- 10) 229.18°
- 11) $\frac{\sqrt{11}}{6}$
- 12) $\frac{\sqrt{21}}{2}$
- 13) $-\frac{\sqrt{33}}{7}$
- 14) $\frac{4}{5}$
- 15) $-\frac{3\sqrt{13}}{13}$
- 16) $-\frac{5\sqrt{34}}{34}$
- 17) $\frac{2\sqrt{3}}{3}$
- 18) A
- 19) 0
- 20) $\frac{4-\sqrt{3}}{2}$
- 21) $\frac{4\sqrt{3}-3\sqrt{2}}{6}$
- 22) $-\frac{1}{2}$
- 23) $-\sqrt{2}$
- 24) $\frac{\sqrt{2}}{2}$
- 25) $-\frac{5\sqrt{3}}{6}$
- 26) 0.94
- 27) 0.62
- 28) 0.26
- 29) 1.24
- 30) 2.08

Answer Key

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31) $-\frac{1}{2}$

32) $\frac{\sqrt{2}}{2}$

33) 1

34) Quadrant III

35) Quadrant II

36) Quadrant IV

37) Quadrant II

38) $\frac{5\sqrt{6}}{12}$

39) $-\frac{7}{5}$

40) 1

41) 1

42) 1

43) B

44) $-\frac{\sqrt{21}}{5}$

45) $-\frac{\sqrt{17}}{8}$

46) $-\frac{9\sqrt{77}}{77}$

47) $\frac{1}{2}$

48) $-\frac{2\sqrt{3}}{3}$

49) $-\sqrt{3}$

50) $-\frac{\sqrt{3}}{2}$