~~Worksheet Section 4.1–4.3~~

Pre-Calculus Worksheet #2 Sec. 4.1- 4.4

Short Answer

Change the degree measure to radian measure. Exact value only.

1. $8°$
2. $230°$
3. $-366°$

Change the radian measure to degree measure. Exact value only.

4. $\frac{\pi}{12}$
5. $\frac{8\pi}{3}$
6. $\frac{-3\pi}{5}$

In each case, find the smallest positive coterminal angle.

7. $422°$
8. $-95°$

Express the given function as a function of a positive acute angle.

9. $\tan(-93°)$
10. $\cos\left(\frac{11\pi}{4}\right)$

Find the quadrant where the following angles lie in.

11. $\frac{-5\pi}{3}$
12. $-152°$
13. $\sec\theta < 0, \cot\theta > 0$
14. $\csc\theta < 0, \sec\theta > 0$
15. Find the exact length of the radius on a circle which intercepts an arc of length 12π ft and is subtended by the central angle of $\frac{4\pi}{3}$ radians.

ANSWERS:

1) $\frac{2\pi}{45}$ 2) $\frac{23\pi}{18}$ 3) $-\frac{61\pi}{30}$ 4) $15°$ 5) $480°$ 6) $-108°$ 7) $62°$ 8) $265°$ 9) $\tan 87°$ 10) $-\cos\frac{\pi}{4}$

11) QI 12) QIII 13) QII 14) QIV 15) $r = 9$ft 16) -1 17) $\frac{1}{2}$ 18) $\sqrt{3}$ 19) 0 20) $-\frac{1}{2}$

Find the exact value.

16. $\csc 270°$
17. $\sin 390°$
18. $\tan(-300°)$
19. $\cot(-270°)$
20. $\sin 330°$
21. $\cot 720°$
22. $\cos 150°$
23. $\cos 0°$
24. $\tan(-450°)$
25. $\csc(-135°)$
26. $\sec(-480°)$
27. $\cos 135°$
28. $\tan(-30°)$
29. $\cos\left(\frac{\pi}{6}\right)$
30. $\sin\left(\frac{-7\pi}{3}\right)$
31. $\cos(-4\pi)$
32. $\csc\left(\frac{5\pi}{6}\right)$
33. $\cos\left(\frac{3\pi}{2}\right)$
34. $\sec\left(\frac{-3\pi}{4}\right)$
35. $\sin\left(\frac{15\pi}{2}\right)$
36. $\tan\left(\frac{9\pi}{4}\right)$
37. $\tan\left(\frac{5\pi}{4}\right)$
38. $\sin(\pi)$
39. $\sin\left(\frac{2\pi}{3}\right)$
40. $\cos\left(\frac{-17\pi}{3}\right)$
41. $\cot\left(\frac{-\pi}{6}\right)$
42. $\sin\left(\frac{5\pi}{4}\right)$
43. $\tan^2 60° + \cot 45°$
44. $\tan\left(\frac{\pi}{4}\right) \cdot \sin\left(\frac{\pi}{6}\right)$
45. $\cot\left(\frac{\pi}{2}\right) + \sec 2\pi$

Skip #46 & 47

~~**Find the value of the following functions. Round your answer to four decimal places.**~~

~~46. $\tan 61°23'$~~

~~47. $\sec 280°45'52''$~~

Find the exact value of the following trigonometric functions by using triangles.

48. If $\cot\theta = \frac{-4}{3}$ and $\sin\theta = \frac{3}{5}$, find $\cos\theta$.
49. If $\cos\theta = \frac{-5}{13}$ and $\tan\theta = \frac{12}{5}$, find $\sec\theta$.
50. If $\cos\theta = \frac{-2}{3}$ and $\csc\theta < 0$, find $\tan\theta$.

ANSWERS:

21) undefined 22) $-\frac{\sqrt{3}}{2}$ 23) 1 24) undefined 25) $-\sqrt{2}$ 26) -2 27) $-\frac{\sqrt{2}}{2}$ 28) $-\frac{\sqrt{3}}{3}$ 29) $\frac{\sqrt{3}}{2}$ 30) $-\frac{\sqrt{3}}{2}$

31) 1 32) 2 33) 0 34) $-\sqrt{2}$ 35) -1 36) 1 37) 1 38) 0 39) $\frac{\sqrt{3}}{2}$ 40) $\frac{1}{2}$ 41) $-\sqrt{3}$ 42) $-\frac{\sqrt{2}}{2}$ 43) 4 44) $\frac{1}{2}$

45) 1 46) 1.8329 47) 5.3541 48) $-\frac{4}{5}$ 49) $-\frac{13}{5}$ 50) $\frac{\sqrt{5}}{2}$