

Find the angle measure θ , such that $0 \leq \theta < 2\pi$, that corresponds to the measure given. $\pm 2\pi$

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|--|---|---|--|
| 1. $\frac{7\pi}{2} = \boxed{\frac{3\pi}{2}}$ | 2. $\frac{11\pi}{3} = \boxed{\frac{5\pi}{3}}$ | 3. $\frac{17\pi}{4} = \boxed{\frac{\pi}{4}}$ | 4. $\frac{29\pi}{6} = \boxed{\frac{5\pi}{6}}$ |
| $\frac{7\pi}{2} - \frac{4\pi}{2}$ | $\frac{11\pi}{3} - \frac{6\pi}{3}$ | $\frac{17\pi}{4} - \frac{16\pi}{4}$ | $\frac{29\pi}{6} - \frac{24\pi}{6}$ |
| 5. $\frac{-\pi}{2} = \boxed{\frac{3\pi}{2}}$ | 6. $\frac{-4\pi}{3} = \boxed{\frac{2\pi}{3}}$ | 7. $\frac{-9\pi}{4} = \boxed{\frac{7\pi}{4}}$ | 8. $\frac{-17\pi}{6} = \boxed{\frac{7\pi}{6}}$ |
| $-\frac{\pi}{2} + \frac{4\pi}{2}$ | $-\frac{4\pi}{3} + \frac{6\pi}{3}$ | $-\frac{9\pi}{4} + \frac{16\pi}{4}$ | $-\frac{17\pi}{6} + \frac{24\pi}{6}$ |

Find the values of the indicated trigonometric functions at the given angle.

Answers must be exact. (i.e. radical form)

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|---|---|---|---|
| 9. $\sin \frac{3\pi}{2} = -1$ | 10. $\sin \frac{2\pi}{3} = \frac{\sqrt{3}}{2}$ | 11. $\sin \frac{7\pi}{4} = -\frac{\sqrt{2}}{2}$ | 12. $\sin \frac{5\pi}{6} = \frac{1}{2}$ |
| 13. $\sin \frac{-\pi}{2} = -1$ | 14. $\sin \frac{15\pi}{3} = 0$ | 15. $\sin \frac{5\pi}{4} = -\frac{\sqrt{2}}{2}$ | 16. $\sin \frac{-13\pi}{6} = -\frac{1}{2}$ |
| 17. $\cos \pi = -1$ | 18. $\cos \frac{5\pi}{3} = \frac{1}{2}$ | 19. $\cos \frac{7\pi}{4} = \frac{\sqrt{2}}{2}$ | 20. $\cos \frac{\pi}{6} = \frac{\sqrt{3}}{2}$ |
| 21. $\cos \frac{-\pi}{2} = 0$ | 22. $\cos \frac{-7\pi}{3} = \frac{1}{2}$ | 23. $\cos \frac{13\pi}{4} = -\frac{\sqrt{2}}{2}$ | 24. $\cos \frac{21\pi}{6} = 0$ |
| 25. $\tan \pi = 0$ | 26. $\tan \frac{\pi}{3} = \sqrt{3}$ | 27. $\tan \frac{3\pi}{4} = -1$ | 28. $\tan \frac{5\pi}{6} = -\frac{\sqrt{3}}{3}$ |
| 29. $\tan \frac{-\pi}{2} = \emptyset$ | 30. $\tan \frac{8\pi}{3} = -\sqrt{3}$ | 31. $\tan \frac{-14\pi}{4} = \emptyset$ | 32. $\tan \frac{19\pi}{6} = \frac{\sqrt{3}}{3}$ |
| 33. $\cot \frac{\pi}{2} = 0$ | 34. $\cot \frac{2\pi}{3} = -\frac{\sqrt{3}}{3}$ | 35. $\cot \frac{-3\pi}{4} = 1$ | 36. $\cot \frac{13\pi}{6} = \sqrt{3}$ |
| 37. $\csc \frac{\pi}{2} = 1$ | 38. $\csc \frac{5\pi}{3} = -\frac{2\sqrt{3}}{3}$ | 39. $\csc \frac{7\pi}{4} = -\sqrt{2}$ | 40. $\csc \frac{\pi}{6} = 2$ |
| $\sin = 1$ | $\sin = -\frac{\sqrt{3}}{2} \quad \csc = -\frac{2}{\sqrt{3} \cdot \sqrt{3}} = -\frac{2}{3}$ | $\sin = -\frac{\sqrt{2}}{2} \quad \csc = -\frac{2}{\sqrt{2} \cdot \sqrt{2}} = -1$ | $\sin = \frac{1}{2} \quad \csc = 2$ |
| 41. $\sec \frac{-3\pi}{2} = \emptyset$ | 42. $\sec \frac{\pi}{3} = 2$ | 43. $\sec \frac{11\pi}{4} = -\sqrt{2}$ | 44. $\sec \frac{-5\pi}{6} = -\frac{2\sqrt{3}}{3}$ |
| $\cos = \frac{0}{1} \quad \sec = \emptyset$ | $\cos = \frac{1}{2} \quad \sec = 2$ | $\cos = -\frac{\sqrt{2}}{2} \quad \sec = -\frac{2}{\sqrt{2} \cdot \sqrt{2}} = -1$ | $\cos = -\frac{\sqrt{3}}{2} \quad \sec = -\frac{2}{\sqrt{3} \cdot \sqrt{3}} = -\frac{2}{3}$ |
| 45. $\tan 7\pi = 0$ | 46. $\sec \frac{-9\pi}{2} = \emptyset$ | 47. $\csc \frac{21\pi}{2} = 1$ | 48. $\cot \frac{-19\pi}{2} = 0$ |
| $\frac{0}{-1}$ | $\cos = \frac{0}{1} \quad \sec = \emptyset$ | $\frac{10 \cdot \frac{1}{2} \pi}{\sin = 1}$ | $\frac{-9 \cdot \frac{1}{2} \pi}{\cot = \frac{0}{1}}$ |