

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

1. $\frac{7\pi}{2} = \boxed{270^\circ}$ 2. $\frac{211\pi}{6} = \boxed{300^\circ}$ 3. $\frac{17\pi}{4} = \boxed{45^\circ}$ 4. $\frac{29\pi}{6} = \boxed{150^\circ}$

5. $\frac{-\pi}{2} = \boxed{270^\circ}$ 6. $\frac{-4\pi}{3} = \boxed{60^\circ}$ 7. $\frac{-9\pi}{4} = \boxed{315^\circ}$ 8. $\frac{-17\pi}{6} = \boxed{210^\circ}$

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

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

9. $\sin \frac{3\pi}{2} = \boxed{-1}$ 10. $\sin \frac{2\pi}{3} = \boxed{\frac{\sqrt{3}}{2}}$ 11. $\sin \frac{7\pi}{4} = \boxed{\frac{-\sqrt{2}}{2}}$ 12. $\sin \frac{5\pi}{6} = \boxed{\frac{1}{2}}$

13. $\sin \frac{-\pi}{2} = \boxed{-1}$ 14. $\sin \frac{15\pi}{6} = \boxed{0}$ 15. $\sin \frac{5\pi}{4} = \boxed{\frac{-\sqrt{2}}{2}}$ 16. $\sin \frac{-13\pi}{6} = \boxed{\frac{-1}{2}}$

17. $\cos \pi = \boxed{-1}$ 18. $\cos \frac{5\pi}{3} = \boxed{\frac{1}{2}}$ 19. $\cos \frac{7\pi}{4} = \boxed{\frac{\sqrt{2}}{2}}$ 20. $\cos \frac{\pi}{6} = \boxed{\frac{\sqrt{3}}{2}}$

21. $\cos \frac{-\pi}{2} = \boxed{0}$ 22. $\cos \frac{-7\pi}{3} = \boxed{\frac{1}{2}}$ 23. $\cos \frac{13\pi}{4} = \boxed{\frac{-\sqrt{2}}{2}}$ 24. $\cos \frac{21\pi}{6} = \boxed{0}$

25. $\tan \pi = \boxed{0}$ 26. $\tan \frac{\pi}{3} = \boxed{\sqrt{3}}$ 27. $\tan \frac{3\pi}{4} = \boxed{-1}$ 28. $\tan \frac{5\pi}{6} = \boxed{\frac{-\sqrt{3}}{3}}$

29. $\tan \frac{-\pi}{2} = \boxed{\emptyset}$ 30. $\tan \frac{8\pi}{3} = \boxed{-\sqrt{3}}$ 31. $\tan \frac{-14\pi}{4} = \boxed{\sqrt{3}}$ 32. $\tan \frac{19\pi}{6} = \boxed{\frac{\sqrt{3}}{3}}$

33. $\cot \frac{\pi}{2} = \boxed{0}$ 34. $\cot \frac{2\pi}{3} = \boxed{\frac{-\sqrt{3}}{3}}$ 35. $\cot \frac{-3\pi}{4} = \boxed{1}$ 36. $\cot \frac{13\pi}{6} = \boxed{\sqrt{3}}$

37. $\csc \frac{\pi}{2} = \boxed{\frac{2\sqrt{3}}{3}}$ 38. $\csc \frac{5\pi}{3} = \boxed{\frac{-2\sqrt{3}}{3}}$ 39. $\csc \frac{7\pi}{4} = \boxed{-\sqrt{2}}$ 40. $\csc \frac{\pi}{6} = \boxed{2}$

41. $\sec \frac{-3\pi}{2} = \boxed{0}$ 42. $\sec \frac{\pi}{3} = \boxed{2}$ 43. $\sec \frac{11\pi}{4} = \boxed{\frac{-\sqrt{2}}{1}}$ 44. $\sec \frac{-5\pi}{6} = \boxed{\frac{-2\sqrt{3}}{3}}$

45. $\tan \frac{7\pi}{4} = \boxed{0}$ 46. $\sec \frac{-9\pi}{2} = \boxed{\emptyset}$ 47. $\csc \frac{21\pi}{2} = \boxed{1}$ 48. $\cot \frac{-19\pi}{2} = \boxed{0}$

THE UNIT CIRCLE

1. Label all angles in radians.
2. Fill in all coordinates.

