



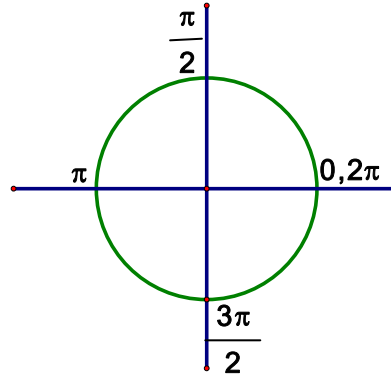
ANGLES IN STANDARD POSITION WORKSHEET

Quadrant I if $0 < \theta < \frac{\pi}{2}$, $0^\circ < \theta < 90^\circ$

Quadrant II if $\frac{\pi}{2} < \theta < \pi$, $90^\circ < \theta < 180^\circ$

Quadrant III if $\pi < \theta < \frac{3\pi}{2}$, $180^\circ < \theta < 270^\circ$

Quadrant IV if $\frac{3\pi}{2} < \theta < 2\pi$, $270^\circ < \theta < 360^\circ$



In which quadrant or on which axis does the terminal side of the angle lie?

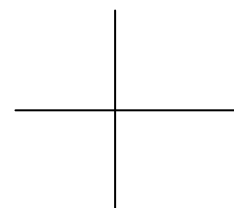
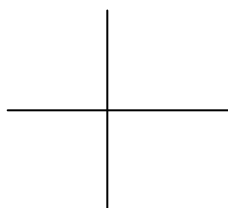
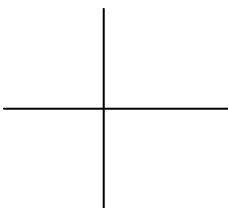
1. $\frac{4\pi}{3}$ 2. $-\frac{5\pi}{4}$ 3. $\frac{9\pi}{2}$

In which quadrant, or on which axis, does the terminal side of the each angle lie?

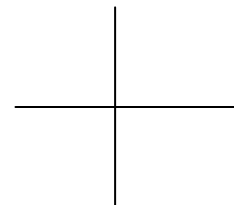
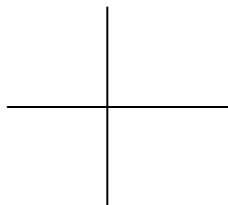
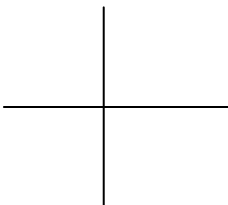
4. 150° 5. 210° 6. -60° 7. 180°
 8. -240° 9. 540° 10. 2π 11. $\frac{\pi}{3}$
 12. $\frac{3\pi}{4}$ 13. $\frac{7\pi}{3}$ 14. $\frac{5\pi}{4}$ 15. $\frac{10\pi}{3}$

Sketch the angles in standard position.

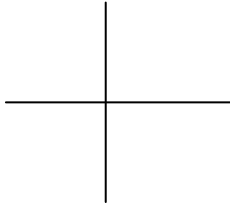
16. 100° 17. -200° 18. $\frac{3\pi}{2}$



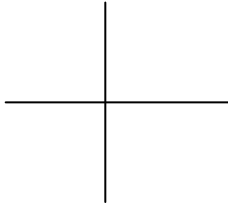
19. -45° 20. $-\frac{20\pi}{9}$ 21. 720°



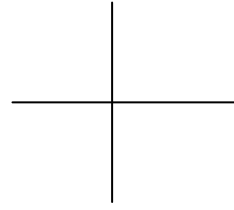
22. -1000°



23. $-\frac{2\pi}{3}$



24. 900°



Name four **coterminal angles** for each angle given.
Be sure to include at least one negative angle measure for each.

25. 310°

26. -30°

27. $\frac{11\pi}{6}$

28. $-\frac{\pi}{2}$

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

30. 135°

Name the **reference angle** for each of the given angles.

31. 330°

32. -225°

33. 400°

34. $-\frac{\pi}{6}$

35. 240°

36. $-\frac{5\pi}{4}$

Determine the six trig functions exact value given a point on the terminal side of an angle in standard position.

37. Given the point (5, -7) on the terminal side of an angle.

38. Given the point $(-6, -4)$ on the terminal side of an angle, determine the six trig functions.

Evaluate trig values given one value and other information.

39. Given $\sin \theta = \frac{3}{4}$ and $\cos \theta < 0$, evaluate $\tan \theta$ and $\sec \theta$.

40. Given $\tan \theta = \frac{7}{4}$ and $\sec \theta < 0$, evaluate $\sin \theta$ and $\cos \theta$.

41. Given $\sin \theta = \frac{3}{5}$ and θ is in Quadrant II, evaluate $\cos \theta$ and $\tan \theta$.

42. Given $\tan \theta = \frac{-5}{3}$ and θ is in Quadrant IV, evaluate $\sin \theta$ and $\sec \theta$.