

Trig. 1 thru 6 Review
Algebra II B

Name: _____

Hour: _____

Formula's: (Arc) $s = r \cdot \theta$ (in radians), $R = \frac{\pi}{180} \cdot D$, $D = \frac{180}{\pi} \cdot R$

Convert Degrees to Radians.

1. 150°

2. 315°

3. 90°

4. 300°

Convert Radians to Degrees.

5. $\frac{\pi}{6}$

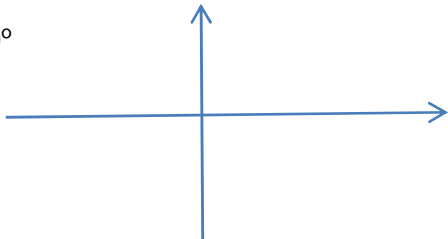
6. $\frac{4\pi}{3}$

7. $\frac{7\pi}{3}$

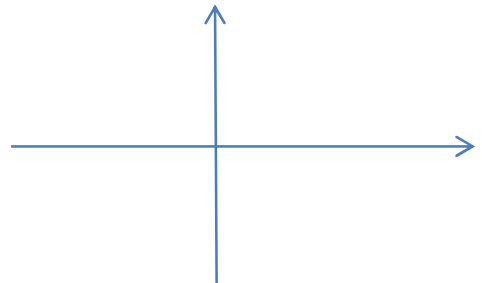
8. $\frac{-5\pi}{6}$

Draw the angle in standard position, then find one positive angle and one negative angle that is Co-terminal with the given angle.

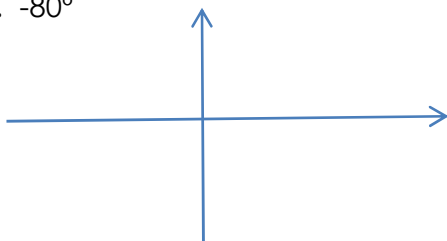
9. 50°



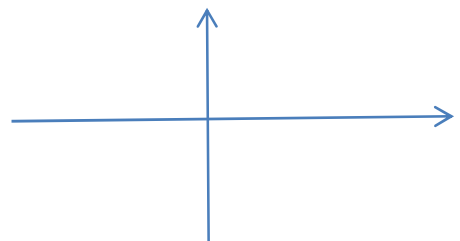
10. 120°



11. -80°

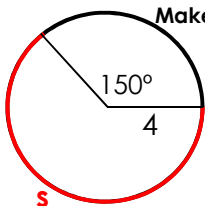


12. 285°

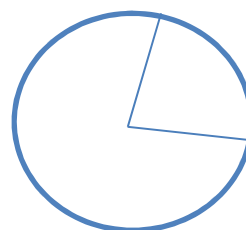


13. Find the length of arc s in the figure.

Make sure you convert the angle to radians!



14. An arc of length 90ft subtends a central angle θ in a circle of radius 25ft. Find θ in radians.



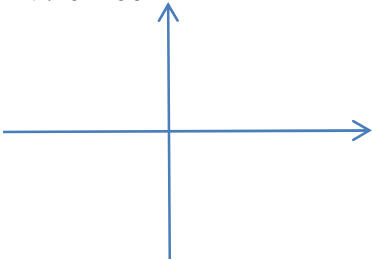
15. A cars wheels are 16 inches in diameter. How far in miles will the car travel if its wheels revolves 20000 times? (Hint: convert inches to miles...5,280 ft =1 mile)

16. Because earth is a sphere, the distance from one point to another is an arc length. If the latitude of Detroit is 42 degrees North of the equator, and the radius of the earth is 3,963 miles, then how far is Detroit from the South Pole?

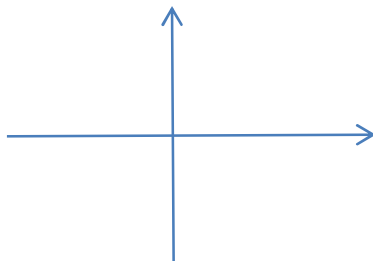
Draw a picture to help you with this problem.

Find the EXACT VALUE of the trig function. SHOW YOUR WORK!!! Make sure you draw the, and label it!

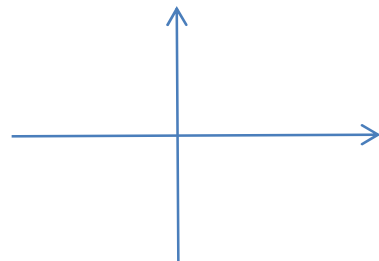
17. $\sin 60^\circ$



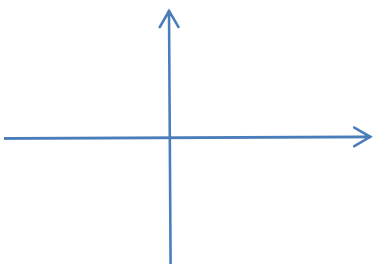
18. $\cos (30^\circ)$



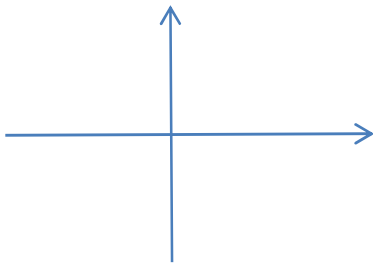
19. $\tan (45^\circ)$



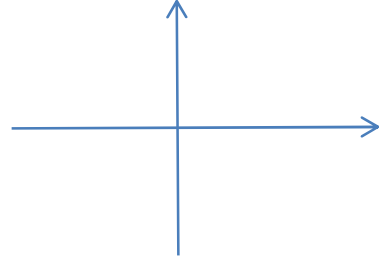
20. $\tan 225^\circ$



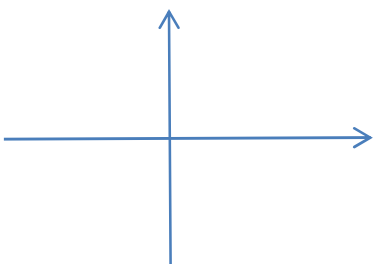
21. $\sin(300^\circ)$



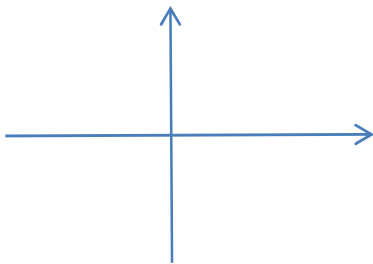
22. $\cos (120^\circ)$



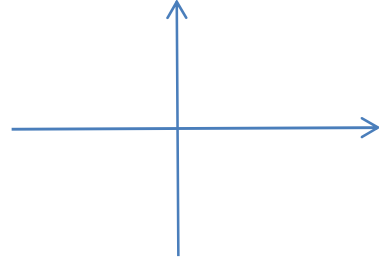
23. $\tan 315^\circ$



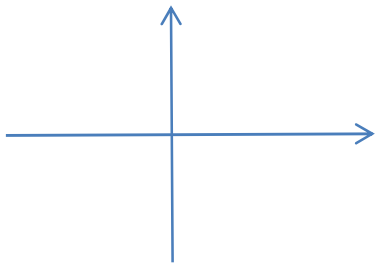
24. $\sin(150^\circ)$



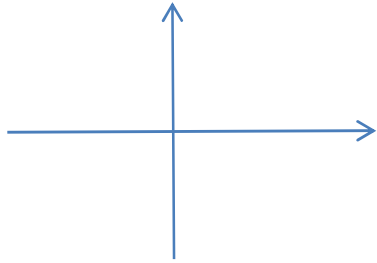
25. $\cos (30^\circ)$



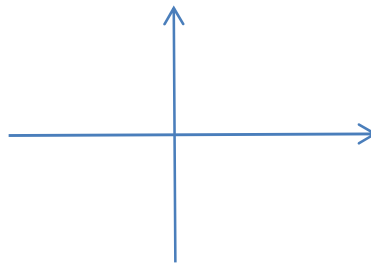
26. $\tan -225^\circ$



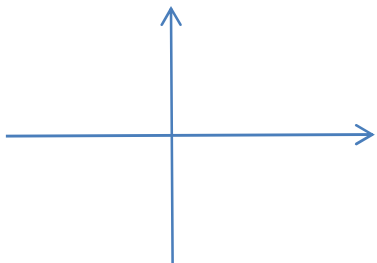
27. $\sin(-240^\circ)$



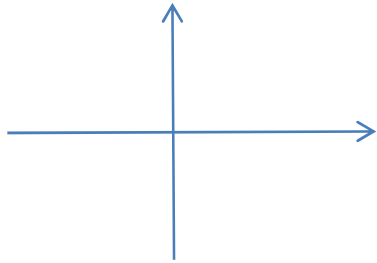
28. $\cos(-30^\circ)$



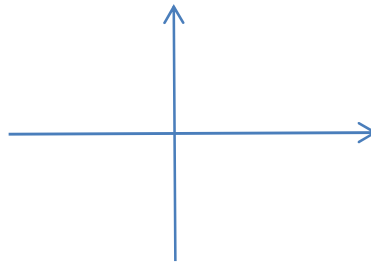
29. $\tan -45^\circ$



30. $\sin(-30^\circ)$

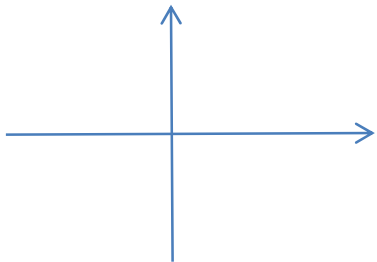


31. $\cos(-120^\circ)$

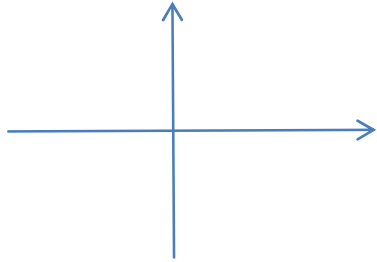


Use the Unit circle to evaluate the following Trig. Functions.

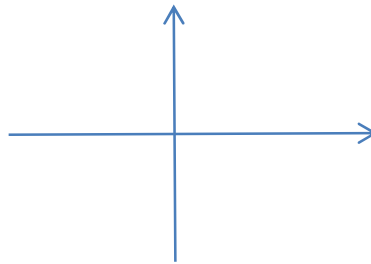
32. $\tan 360^\circ$



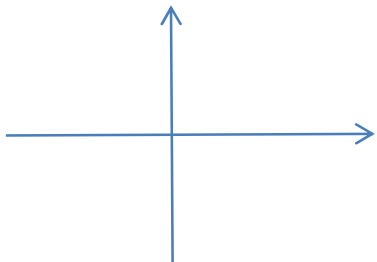
33. $\sin(180^\circ)$



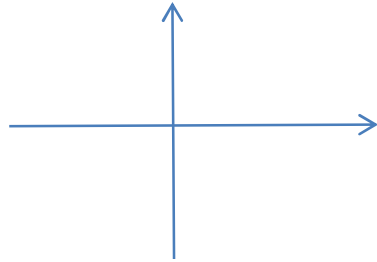
34. $\cos(180^\circ)$



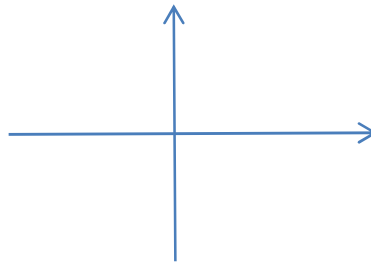
35. $\tan 90^\circ$



36. $\sin(90^\circ)$

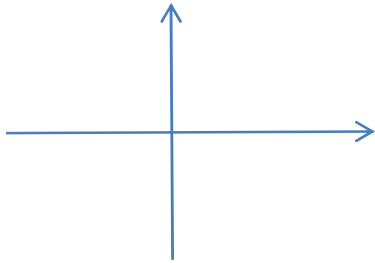


37. $\cos(-270^\circ)$



Find the values of the remaining trig functions of θ given the following information. Make sure you draw the triangle!

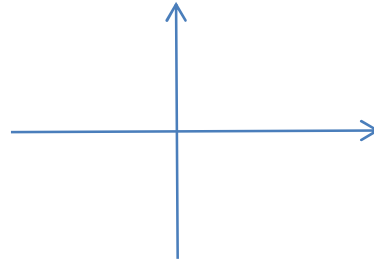
38. $\sin \theta = -1/2$, θ is in Quadrant 4



$\cos \theta =$

$\tan \theta =$

39. $\tan \theta = -1$, is in Quadrant II



$\sin \theta =$

$\cos \theta =$

40. Sketch a triangle that has an obtuse angle θ . If $\sin \theta = \frac{12}{13}$, find the values of the other five trig functions for angle θ .

$\sin \theta =$

$\cos \theta =$

$\tan \theta =$

$\csc \theta =$

$\sec \theta =$

41. An airplane is at an elevation of 20,000 feet when it begins its approach to an airport. Its angle of descent is 3° .



a.) What is the distance between the airport and the point on the ground directly below the plane?

b.) What is the approximate air distance between the plane and the airport?