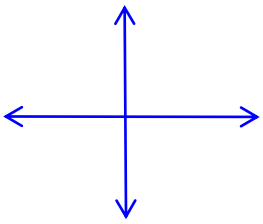
WS3 - Precalculus TEST Review 4.1 Name_____

Per_____

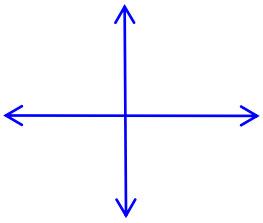
CALCULATOR ALLOWED

Sketch the following angle. Label all diagrams.

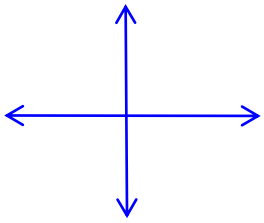
1. 330^0



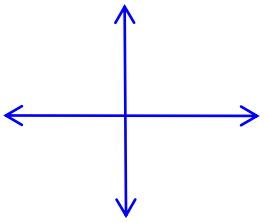
2. -230^0



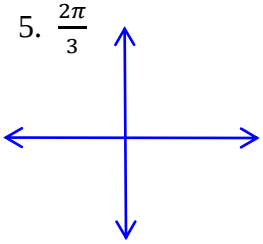
3. 630^0



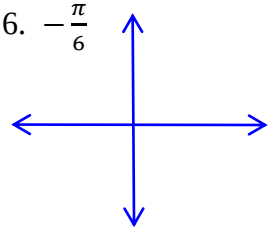
4. -65^0



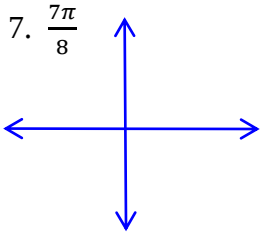
5. $\frac{2\pi}{3}$



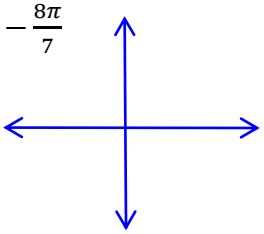
6. $-\frac{\pi}{6}$



7. $\frac{7\pi}{8}$



8. $-\frac{8\pi}{7}$



Convert the following angles to a decimal in degrees. Round to three places. You must show work for full credit!!

9. $54^0 45'$

10. $85^0 22' 28''$

Convert each decimal degree to degree, minutes and seconds. You must show work for full credit!!

11. -3.58^0

12. 20.7865^0

Convert each angle from radians to degrees. Round all answers to three places. Show all work.

13. $\frac{5\pi}{11}$

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

15. 2.57

Convert each angle from degrees to radians. Round all answers to three places unless you are asked to leave in terms of π, in which case leave as a fraction.

16. 87^0 17. 115^0 18. 60^0 (leave in terms of π)

19. Identify an angle between 0 and 2π that would be equivalent to $\frac{10\pi}{3}$? $\frac{13\pi}{6}$?

20. Find the complement of $\frac{\pi}{12}$ and leave answer in terms of π.

In which quadrant or on what axis would the following be located?

21. 780^0 22. $\frac{7\pi}{2}$

Find the central angle of a circle with given radius and arc length.

23. radius of 27in and arc length of 6in. (give answer in radians)

Find the length of the arc with given radius and angle.

24. radius 15in and angle 72^0 25. radius 20cm and angle $\frac{5\pi}{3}$

26. Find the area of a sector having a radius of 70 ft and an angle measure of 120^0.

27. Find the radius of a sector that has an area of 8.38 sq.ft. and an angle measure of $\frac{\pi}{3}$.

28. Find the angular velocity, in degrees per second, of a wheel turning at 5 revolutions per minute.

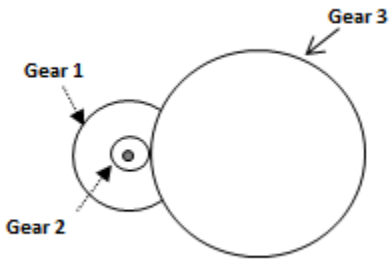
29. Determine the rpm of a wheel turning 25° per second.

30 Find the linear velocity, in cm per minute, of a point on the edge of a wheel rotating at 4 revolutions per second with a radius of 6mm.

31. A Ferris wheel takes 45 seconds to make one revolution and the seats are 30 ft from the spoke. What is the linear velocity, in ft per second, of a person riding in one of the seats?

32. Use the diagram to the right to answer the following question:

(a) Gear 1 rotates at 250 rev/min and has a radius of 6in and Gear 2 has a radius of 2 in. What is the linear velocity in in/sec of Gear 2?



(b) Find the angular velocity of Gear 3 in rev/sec if gear 3 has a radius of 16 in.

Answers on the back

Answers: 1)IVquadrant 2)IIquadrant 3)neg y-axis 4)IVquadrant 5)IIquadrant 6)IVquadrant 7)IIquadrant 8)IIquadrant 9) 54.75^0 10) 85.374^0 11) $-3^0 34' 48''$ 12) $20^0 47' 11''$ 13) 81.818^0 14) 25.714^0 15) 147.25^0 16) 1.518 17)2.007 18) $\frac{\pi}{3}$ 19) $\frac{4\pi}{3}, \frac{\pi}{6}$ 20) $\frac{5\pi}{12}$ 21) Iquadrant 22) neg y-axis 23).222 radians 24) 18.85in 25)104.72cm 26)5131.268sq.ft. 27) 4ft 28) 30^0/seconds 29) 4.167rpm 30) 904.78 cm/min 31) 4.189 ft/sec 32a. 52.360 in/sec (b) .521 rev/sec

STUDY ALL NOTES, QUIZZES AND WORKSHEETS!!