Exam 2 Test Prep

Degrees to Radians

Multiply the degree by π/180

Radians to degrees

Multiply Radian by 180/ π

1.What is 120° in radians?

2. What is 330° in radians

3. What is 225° in radians

4.What is 7π/4 in degrees

5.What is 3π/4 in degrees

6.What is π/3 in degrees

Arc Length

Formula: S= r x θ

*Theta HAS to be in RADIANS

7. If a circle has a radius of 18.20cm find the arc length of the two degrees below.

A) 7π/4

B) 270°

C) 3π/2

Area of a Sector Formula:

$A = \frac{1}{2} r^2 \theta$

* Theta HAS to be in RADIANS

8. If a circle has a radius of 26.75inch, what is the Area of the sector if is $\theta = 15°$?

9. If a circle has a diameter of 72.45cm, what is the area of the sector if is $\theta = 35°$?

Angular Speed: $\omega = \theta / t$

10. A wheel completes 135 revolutions in 1 minute. What is its angular speed in radians per second?

11. A fan blade rotates at 600 revolutions per minute (rpm). What is its angular speed in radians per second?

12. A car tire with a radius of 0.5 meters is rolling without slipping at a linear speed of 20 m/s. What is the angular speed of the tire?

Linear Speed: $v = d/t$ or $v = \omega r$

13. A cyclist travels 120 meters in 20 seconds. What is the cyclist's linear speed?

14. A wheel with a radius of 0.6 meters is spinning at an angular speed of ω = 12rad/s. What is the linear speed of a point on the edge of the wheel?

15. A Ferris wheel with a radius of 12 meters makes one complete revolution every 30 seconds. What is the linear speed of a seat on the edge?

Finding Trig Values:

16.What are the three trig functions at 5π/6?

17. What are the three trig functions of 4π/3?

18. What are the three trig functions at π/4?

19. What are the three trig functions at -π/3?

20. What are the three trig functions at -2π/3?

Graph Sin, Cos and Tan

21. y=6sin(2x)

22. $y= -\cos(4x)$

23. $y=2\cos(x+ \pi/2) -1$

24. $y=\sin 1/2(x +2\pi)$

25. y=tanx

26. Y=-2tan(1/2x)