Circular Rotation: Radians and Arc Lengths Class Practice

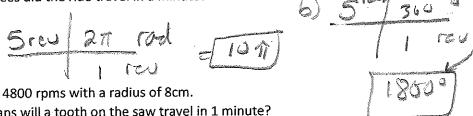
1. Convert 65° to radians 65° 27 - 1.13 radians 2. Convert 1.75 radians to degrees
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3. A motor in your car is rotating at 3000 rpms. a. What does RPM stand for? Revolution per wints
b. How many radians per minute?
7,080,000%
c. How many radians per minute?
4. A 1.5M tire rotates 3 full rotations forward. How far did it move?
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A.E
d=00 22.3=67 67.75=[14m]
C=.75m
5. A baseball pitcher throws a ball from just behind his head releasing just in front of his face a
total of 60° . If his arm is 90cm long how far did the ball travel along the arc? $d = 1.0 \text{MeV}$.
14. d= Or 69/27 cod = 1.04 cod = .94m
6. The International space station (ISS) rotates around the Earth 15.5 times per day and the Moon
rotates 1 time in 28 days.
a. What is the displacement per day of the iss.
b. What is the angular displacement of the moon per day?
-duy 1250 20 = 97.3 m-lan
7. The international space station rotates at a distance of 6.79E6m from the center of Earth and
the Moon is 3.84E8m from Earth. The space station is in what is call a Low Earth Orbit (LEO) but
the Moon is far enough away to fit 30 Earth sized planets between us.
a. How far does the space station actually travel in 1 day?
b. How far does the ivioon travel in 1 day?
97.3.6.79E6
22.3.84E8= 8.36E7m

Circular Rotation: Radians and Arc Lengths Student Practice

1. Convert 1800 to radians

Convert 1 revolution to radians.

- 3. A merry-go-round travels at 5 rmps.
 - a. How many radians did ride travel in a minute?
 - b. How many degrees did the ride travel in a minute?



- 4. A circular saw travels at 4800 rpms with a radius of 8cm.
 - a. How many radians will a tooth on the saw travel in 1 minute?
 - b. How far will the tooth travel in 1 minute? (cm)

A wheel rotates 3 times. What is its angular displacement?

- - a. The angular displacement of the small wheel is (equal/larger/smaller)?
 - b. The arc length of the small wheel is (equal/larger/smaller)?
- 7. A drum (50cm radius) is rotating moving paper in a factory. 200m of paper (lengthwise) is required or an order.
 - a. What angular displacement is required for the order?

