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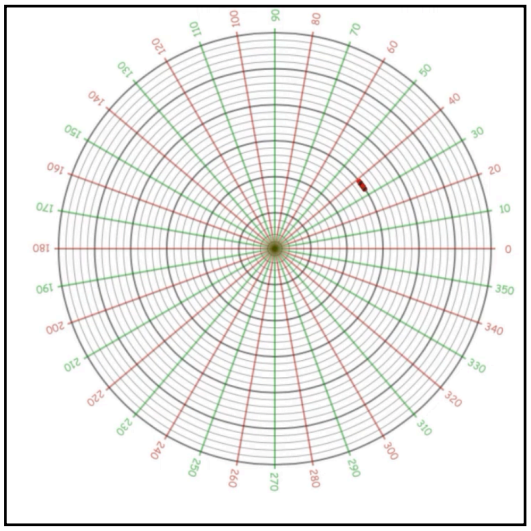
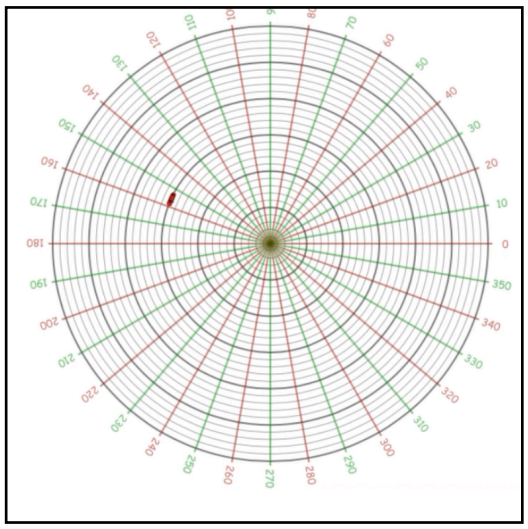
Practice With Angular Speed and Linear Speed

Below is a picture of a car at two different locations. It took the car, 6.18 seconds to go from the first position to the last position. The car did less than a full revolution. Use these pictures to find all of the following variables.





$\Delta\theta =$

$t =$

$\omega =$

$T =$

$f =$

$rpm =$

$C =$

$v =$

1. Quick math from using ideas from lab

   a. What is the period of an object that makes 2 revolutions in 40 seconds?

   b. What is the frequency of an object that makes 14 revolutions in 0.5 seconds?

   c. What is the rpm of an object that makes 98 revolutions in 120 seconds?

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d. What is the angular speed of an object that makes 10 revolutions in 1 second?

e. What is the period of an object with a frequency of 5 rev/second?

f. What is the speed of an object with a 2 meter radius that is making 6 revolutions in 60 seconds?

g. What is the period of an object that makes 0.5 revolutions in 10 minutes?

h. What is the rpm of an object with a frequency of 3 revs/second?

2. A toy plane flies in a circular path with a radius of 2.4 m at a steady rate. The plane makes 5 revolutions in 50 seconds. Calculate all the variables that can describe the motion of the plane. (rpm, frequency, period, angular speed, linear speed)

3. A car tire is spinning at a rate of 180 rpm. The tire has a diameter of 60 cm. Calculate all the variables that can describe the motion of the plane. (rpm, frequency, period, angular speed, linear speed)