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**AP Physics 1: Angular Kinematics Quiz**

1. A clown riding a unicycle is traveling across a 10 meter long tight rope. The diameter of the unicycle’s wheel is 0.5 m. The clown starts from rest and accelerates uniformly for 0.9 seconds. The clown then travels the remaining 9 meters of the rope at a constant velocity.
   1. How many times will the wheel rotate across the rope?
   2. What is the angular acceleration of the wheel during the first 0.9 seconds?
   3. What is the final constant angular velocity of the unicycle wheel?
   4. What is the total time it takes the clown to cross the rope?
   5. On the axes provided below, draw and label the displacement vs. time, theta vs. time, velocity vs. time, and angular velocity vs. time graphs for the clown.

 

 