Pre-Lab Practice: Circular Motion

Review the Textbook:

- *PHYS 1401: Serway & Vuille: Section 7.4*
- *PHYS 2425: Serway & Jewett: Section 10.3*

A 350 gram mass is tied to a string and spun in a horizontal circle with a radius of 11.0 cm. The speed of the mass is held constant and the period of rotation is 0.65s

1. What is the angular speed of this mass?
   (9.67 rad/s)

2. What is the linear speed of this mass?
   (1.06 m/s)

3. What is the spatial orientation of the linear velocity vector?
   (horizontal and tangential to the circle)

4. What is the magnitude of acceleration of this mass?
   ($10.3\ m/s^2$)

5. What is the spatial orientation of the acceleration vector?
   (horizontal and radial to the circle)

6. What is the magnitude of the centripetal force on this mass?
   (3.61 N)