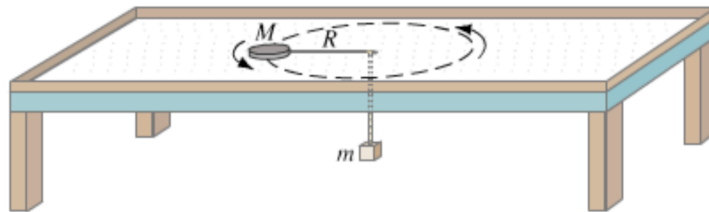


Homework 11

Due 11/20

1. Some people say that water is removed from clothes in a spin dryer by centrifugal force throwing water outward. Explain what is really happening.
2. What is the centripetal acceleration of the earth around the sun? Jupiter?
3. A child sitting 16m from the center a ferris wheel moves completely around the wheel in 72 seconds. What is their centripetal acceleration.
4. An air hockey puck is connected by a string through a hole in the table, to a dangling block.



If the hanging mass (mass  $m$ ) is 200g, and the radius of rotation ( $R$ ) is  $.3m$ , what is the tangential velocity of the 200g puck on the table (mass  $M$ )?

5. A hypothetical planet has a radius 1.5 times that of Earth, but has the same mass. What is the acceleration due to gravity near it's surface?
6. A neutron star has five times the mass of our sun packed into a sphere about 10km in radius. Estimate the force of gravity near the surface of this star.