Homework 27

1. A thin rubber cord of mass $\boldsymbol{m}$ and force constant $\boldsymbol{k}$ is formed into a ring of radius $\boldsymbol{R_0}$. The ring is then spun about its axis. Find the new radius of the ring if its angular velocity of rotation is $\boldsymbol{\omega}$.

2. A horizontally positioned cylinder rotates about its axis. What angular velocity must the cylinder have so that small particles inside the cylinder do not slide along its inner surface? The friction coefficient between the cylinder's surface and the particles is 1, and the inner radius of the cylinder is $\boldsymbol{R}$.