Problems:

1. A thin ring rolls without slipping with speed $v$along a rough horizontal surface. After an elastic collision with a smooth vertical wall, how long will it take for the ring to come to rest, if the coefficient of friction between the ring and the surface is μ?

   Qualitatively describe the motion of a solid disk after the collision.

2. A light rod with masses $m_1$and $m_2$attached at its ends rests with its midpoint on a rigid support. Initially, the rod is held horizontally and then released. What force does it exert on the support immediately after it is released?