1. **Rocket from the North Pole**

   Use an inflated balloon to represent the surface of the Earth (which is rotating at constant angular velocity). A rocket is shot from the North Pole that is initially aiming to fly over the heads of point X on the equator. Assume there is no air resistance, and no left/right boosters on the rocket.

   (a) Draw the trajectory onto the balloon as the rocket flies from the north pole to the equator.

   (b) In the Earth’s reference frame, the trajectory can be described by a Coriolis force. Does this force point east or west?

   (c) Continue drawing the trajectory southward. Does the Coriolis force reverse direction?

   (d) Will the rocket fly over the south pole?

   (e) Is there a Coriolis force as the rocket passes the equator?