

Physics 135 Video1: “Some Assembly Required” Guide Questions

Variants of these questions may appear in homework and exams. Answer them and keep them in your notes.

1. In the video on Making Bowling Balls, we learn that the resin central core is not perfectly round. Why is this so ? Along what axes are the finger holes drilled ?
2. A bowling ball is finished with a “plasticizer” that leaves little pinholes when it evaporates. How does this help the bowling ball acquire greater rolling friction ?
3. In the video on Making Golf Clubs, the head of the golf club is found to be more stable upon hitting the golf ball when it is “perimeter-loaded” (when the edges are more massive than the center) as opposed to a head that is uniform across the head. Explain this in terms of what you learned from the concept of moment of inertia.
4. In the video on Making Toilet Bowls, how many gallons of water is flushed by a toilet, as approved by Congress in 1994 ? How does a jet-assisted toilet bowl work ?
5. Describe the materials making up a toilet bowl and the processing it undergoes.