7th Grade Geometry Problem Solving

Directions: Please demonstrate your knowledge fully by answering the question to the best of your ability while also justifying your answer. (Example: 47 ft^3; *when you multiply all of the dimensions together you get 47*). These can be done on loose leaf paper.

1) Imagine that you are on a perfectly smooth sphere as big as the sun. A steel band is stretched tightly around the equator.

   One yard of steel is added to this band so that it is raised off the surface of the sphere by the same distance all the way around. Will this lift the band high enough so that you can:

   a) Slip a playing card under it?
   b) Slip your hand under it?
   c) Slip a baseball under it?
   d) Drive semi-truck under it?