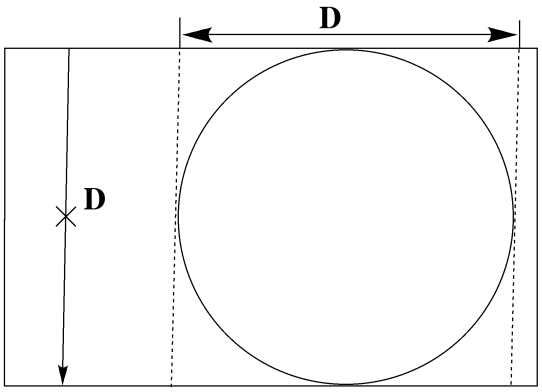
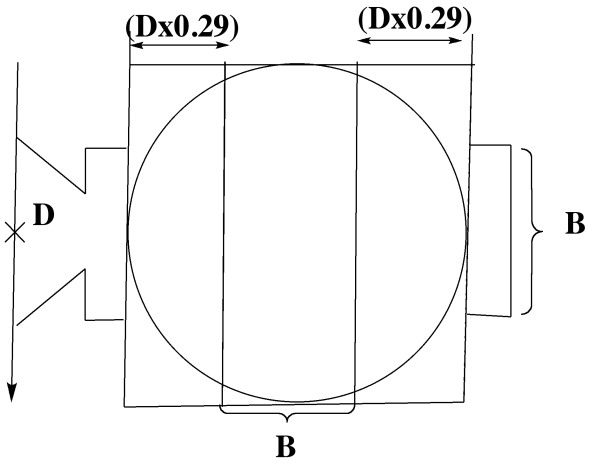
SPHERE TURNING BY TANGENT REDUCTION

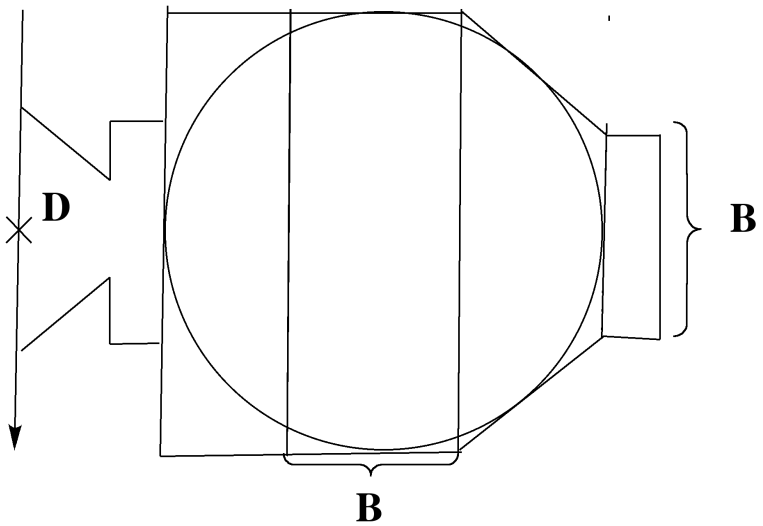
1. Mount the blank in the chuck, turn cylinder. Measure the diameter (D).



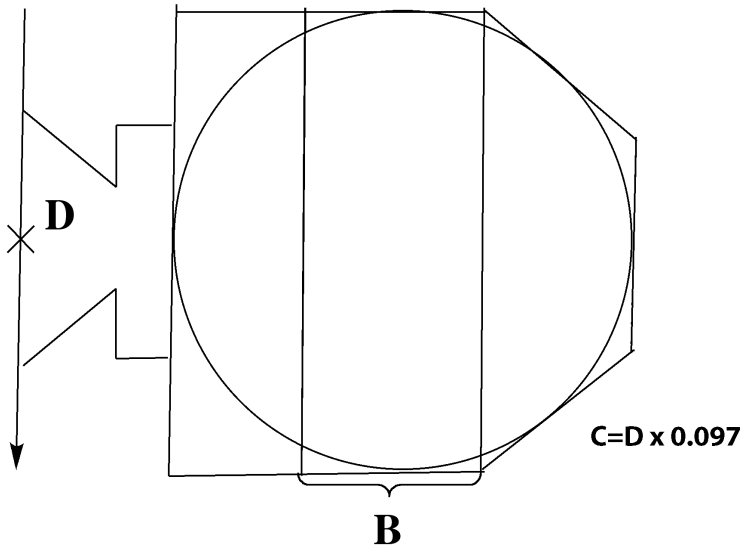
2. Lay out the length of the sphere (D). Cut in 3/8" at the marks.
3. Measure (Dx0.29) from each edge and mark in black pencil.
4. Set a spring caliper to the distance between the marks (B)
5. Cut a tenon of diameter=B on both ends. Remove excess wood to reveal the tenon on both ends. Mark the corners of the tenon in black pencil



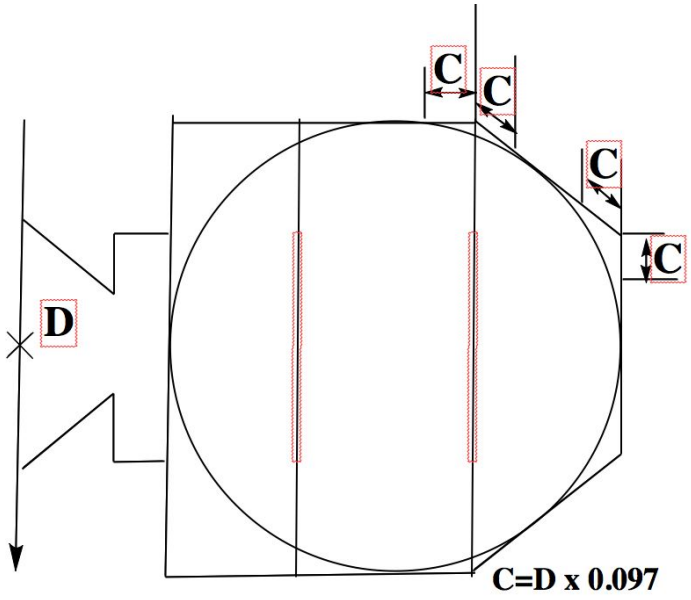
6. Connect the black lines with a straight cut.

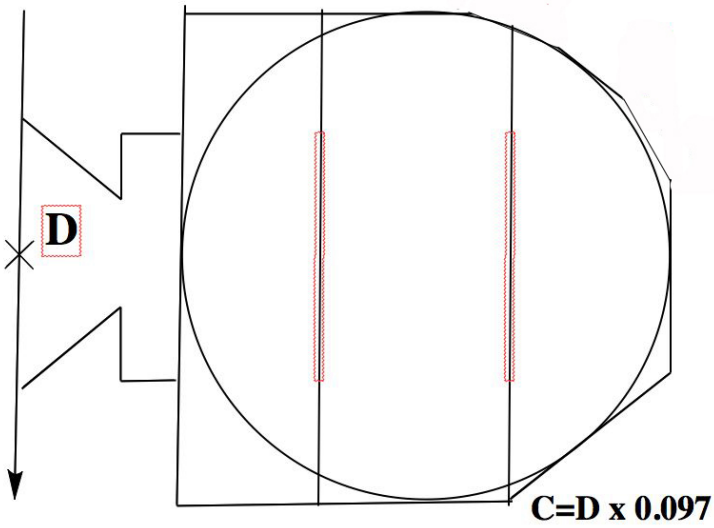


7. Part off the tenon and reduce the diameter of the chuck end as much as possible



8. Mark a distance C from the corners on both sides. Mark with a red pencil. Connect the red lines with a straight cut, cutting away the black lines. This gives a 16 sided figure (sort of).





(NOTE: drawings are not to scale. Any action on one side must be duplicated on the other)

9. All facets should be the same width. Mark the center points of all facets in black. These lines will be the surface of the sphere.

10. With a curved cut, remove the red lines, leaving the black ones to finish the sphere. Cut away as much of the chuck end as possible to improve the shape.

11. Sand with circular sandpaper guides (pipe caps are a good start) to maintain the shape during sanding.

12. Finish as desired. Part off chuck end, sand and finish.