PROBLEM CORNER

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Problem 1

Given a circle C and a point P in space, find the locus formed by taking the reflection of the center of C with respect to the perpendicular bisector plane of P with a variable point of C.

Problem 2

Let R be the rhombic dodecahedron with all faces having the same area and the same length 1 for the shorter diagonal. Find the volume of R.

Problem 3

Let B be the smallest box containing a regular octahedron having each edge of length 1. Find the volume of B.