Problem 3
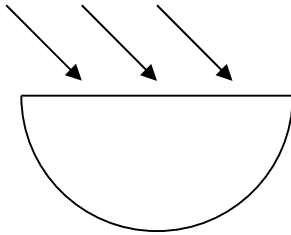
Parallel light rays are falling on the plane surface of a semi-cylinder made of glass, at an angle of 45°, in such a plane which is perpendicular to the axis of the semi-cylinder (*Fig. 4*). (Index of refraction is $\sqrt{2}$.) Where are the rays emerging out of the cylindrical surface?

Figure 4