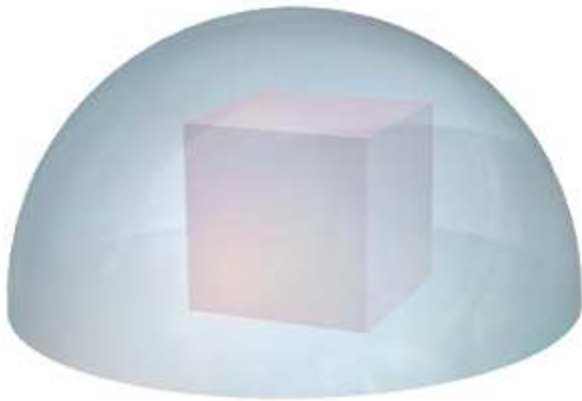


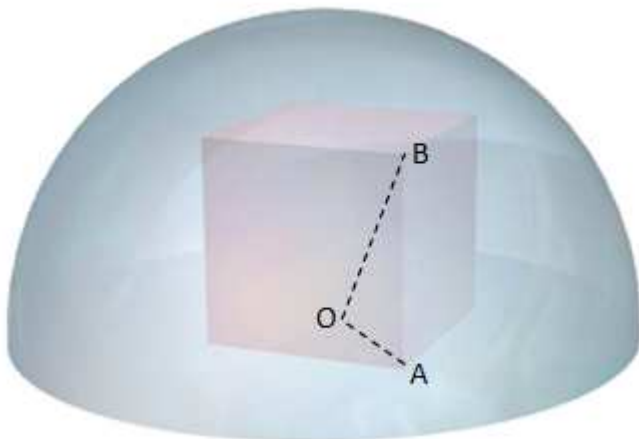
Quiz 61 : Cube inside a hemisphere Published on Jan 12, 2018

Which is the side of a cube inserted in a hemisphere with diameter D , both laying on the same plane?



Solution

Take a look to below sketch. We know the diameter is $D=2OB$.
The triangle OAB is a right triangle, where the side AB is the side of the cube.



$$OB^2 = OA^2 + AB^2$$

$$\text{Similarly, } 2OA^2 = AB^2$$

Combing above two formulas, easily $AB = OB/\sqrt{6}$

Easy, isn't it?

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