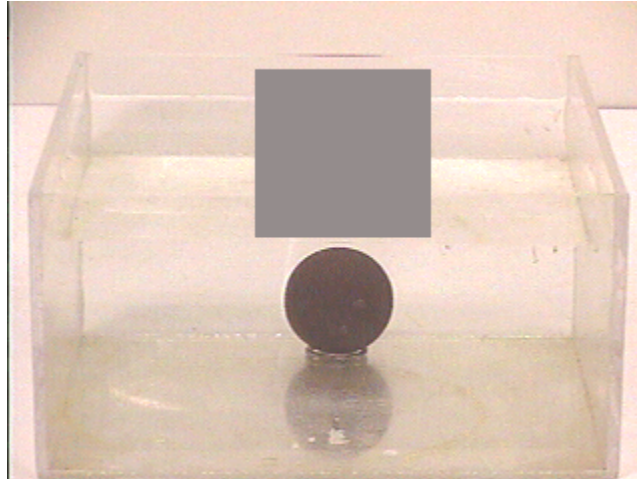


## Question #100

The photograph below shows a ball in a tank of water; the ball is viewed through the front of the tank, as seen in the photograph.



If the gray rectangular mask had not been placed in the picture, you would be able to see a second view of the ball. In this second view the light rays that get to your eye would have emerged from the top of the water surface.

The question this week is exactly how this second view of the ball would appear. Is it the same round ball that you see in the photograph above? Perhaps in this view the ball is distorted, and the vertical size is either magnified or demagnified with respect to the original view above. Perhaps the horizontal size is either magnified or demagnified with respect to the original view.

In the second view of the ball, where the light rays emerge from the top of the water to arrive at your eyes,

- (a) the horizontal dimension is magnified.
- (b) the horizontal dimension is demagnified.
- (c) the vertical dimension is magnified.
- (d) the vertical dimension is demagnified.
- (e) the ball looks the same.

Draw a sketch of how you think the ball will appear when the gray mask is removed.

Click here for [Answer #100](#) after January 21, 2001.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).