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Regulars



Puzzle page



Ship of Fools



The Stranges

Mr and Mrs Strange row out to the middle of a large lake, carrying a rock in the bottom of their boat. Then they throw the rock overboard (don't ask why – they're just strange), and it sinks to the bottom of the lake.

Does the water level in the lake rise or fall (relative to the shore)?

The solution

Archimedes tells us that the upwards force on the boat is equal to the weight of the water displaced. So when the rock is in the boat, it displaces an amount of water of the same WEIGHT. But when the rock is in the lake, it displaces an amount of water of the same VOLUME. Since water is less dense than rock, the former is greater than the latter. So the level falls.

Lots of readers sent us in solutions, and most were correct! One reader sent us in some supplementary questions, which you can find in the [Readers' Corner](#).

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