Question #42

Two identical masses are suspended from a fixed point using three identical strings, as seen in the photograph below. The top string, connected to the fixed support, holds the higher mass; the middle string connects the higher mass to the lower mass; and the lower string connects the lower mass to a metal rod that can be grasped in order to pull downward on the lower string.

![Image of suspended masses](image)

When the rod is pulled downward, exerting a force on the lower string, which of the three strings will break?

The three possibilities are that, when the lower string is pulled downward:

- (a) the upper string will break.
- (b) the middle string will break.
- (c) the bottom string will break.

Click here for Answer #42 after December 11, 2000.

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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.