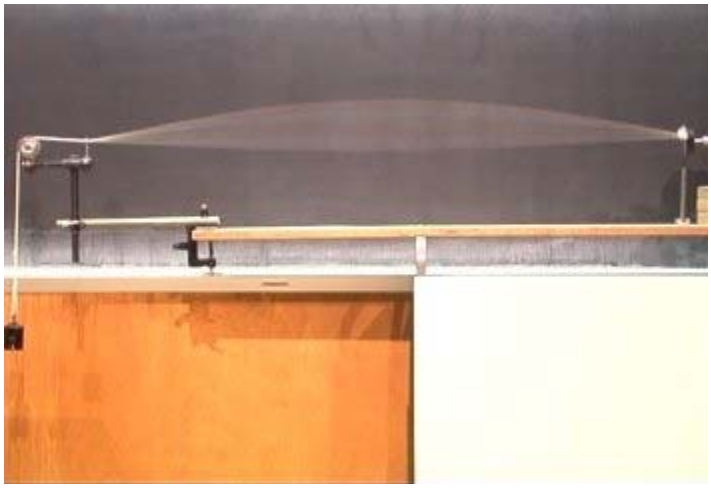
Answer #262

The answer is (f): 1000 grams, as seen in an mpeg video by clicking your mouse on the photograph below.



Note that you wish to double the wavelength of the standing wave produced by the rope wave generator (from L/2 to L, the length of the rope) while keeping the frequency the same. You can do this by increasing the tension in the rope by a factor of 4, which increases the wave speed by a factor of 2, because the speed of the wave is proportional to the square root of the tension. Doubling the wave speed while keeping the frequency the same doubles the wavelength.

Archive 14

Question of the Week

Outreach Index Page

Lecture-Demonstration Home Page

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.