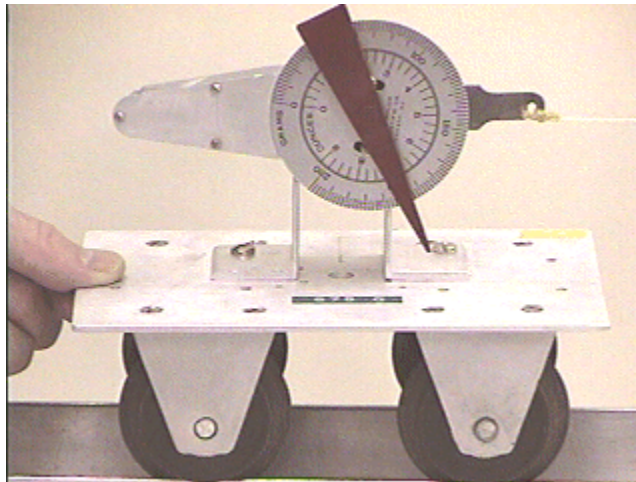


Answer #122

The answer is (b): in fact the spring scale will read 163 grams (well, actually closer to 153 grams), as can be seen in a slow-motion mpeg video by clicking your mouse on the photograph below.



Two equations for the motion of this system are:

$$(M+m)a = mg \text{ and } T = Ma,$$

so the tension in the string after the system is released is given by:

$$T = Mmg/(M+m), \text{ or } T/g = Mm/(M+m).$$

Putting in the values of $M = 875$ grams and $m = 200$ grams, $T = 163$ grams.

[Archive 7](#)

[Question of the Week](#)

[Outreach Index Page](#)

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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](#).