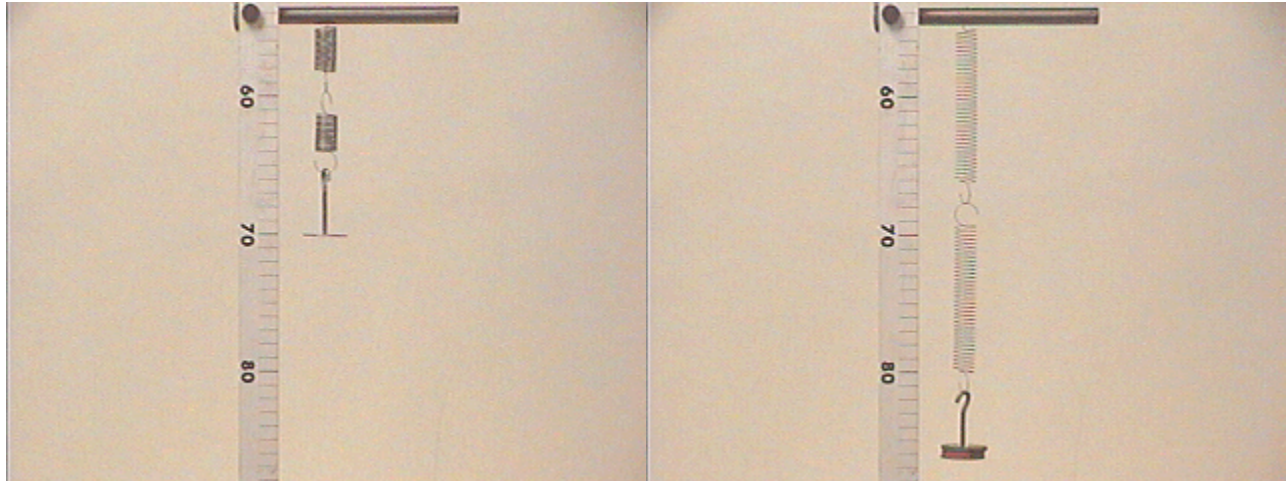# Answer #176

Part 1

The answer is (d): in fact, the series spring combination will be extended by 16 cm, so the end will be at 86 cm on the scale, as seen in the photograph at the right below.

Note that the same weight is acting on both springs. According to the information provided for the single spring, the given weight causes each spring to extend by 8 cm, so the combination in series extends by twice that amount, or 16 cm. The end will be at 86 cm on the scale.

Part 2

The answer is (a): the extension will be about 4 cm, so the end of the weight hanger will be at 74 cm, as seen in the photograph at the right below.
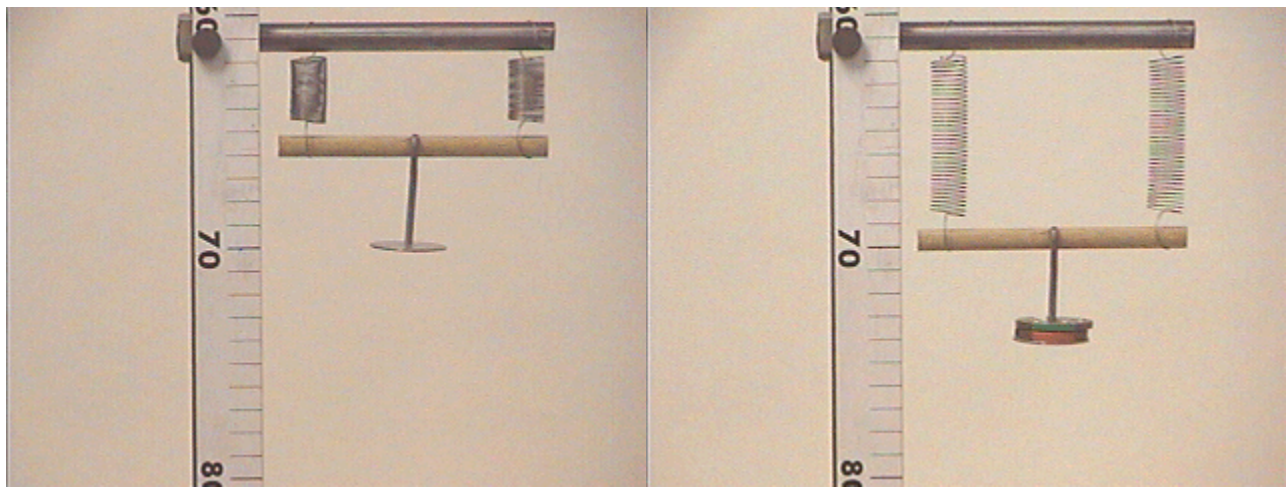
The downward force due to the two weights is shared between the two parallel springs, so that each spring feels the force of only one of the weights. Thus each spring is extended by 4 cm, so the location of the weight hanger will be 74 cm.

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](#).