

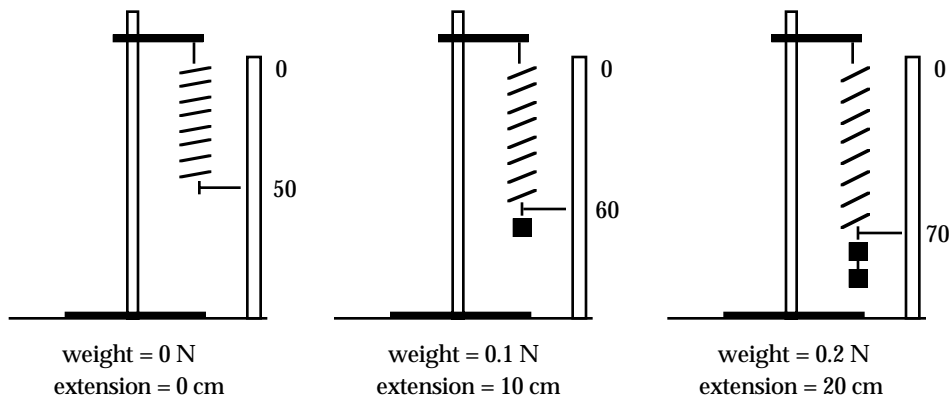
Forces : Notes/W.S.-30

Measuring Forces

One way to measure the size of a force is with a **spring scale**. In a spring scale, a force causes the spring to stretch. The amount of the extension is proportional to the force. This means, for example, that if the force is doubled, the extension is doubled.

The scale below is calibrated with the meter stick on the right. This means that the weight of an object can be found.

The Spring Scale



For the spring scale above, answer the following questions.

1) Fill in the blanks.

Weight (N)

Extension (cm)

0.05

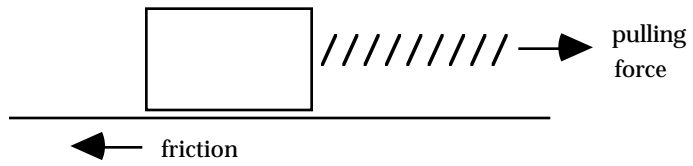
10.00

0.25

30.00

0.42

2) The spring scale can be used to find the horizontal pulling force acting on the box below. The box is pulled at a constant speed.



a) If the extension of the spring is 87 cm, what is the pulling force?

b) What is the force of friction?

Answers: 1) 5.0 cm, 0.10 N, 25.0 cm, 0.30 N, 42.0 cm, 2) 0.87 N, -0.87 N.