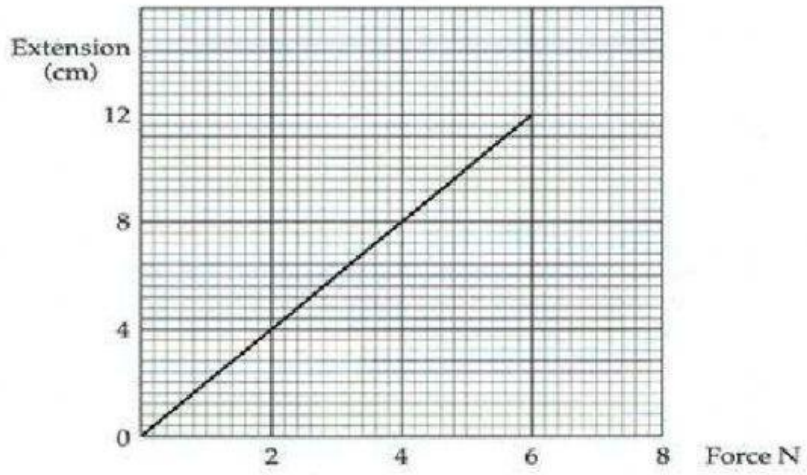
ACTIVITY # 6.2 Hooke's Law

Date due:_____

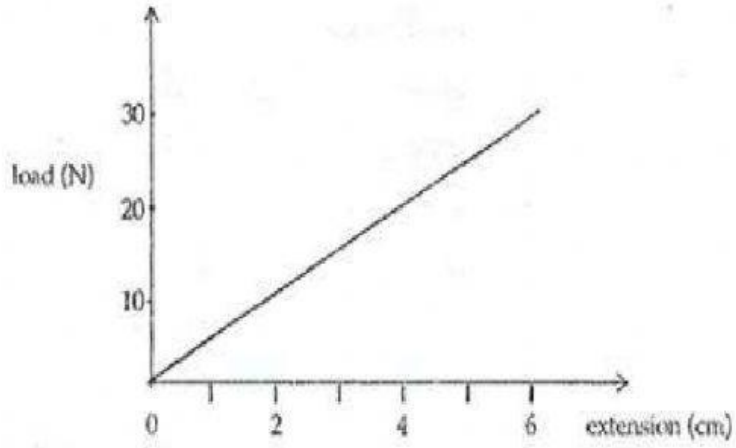
1. The graph shows how the extension of a spring varies with the stretching force applied to it.



The spring is unstretched and has a length of 4.0 cm. What force is required to double the length of the spring?

A. 1.5 N B. 2.0 N C. 4.0 N D. 6.0 N

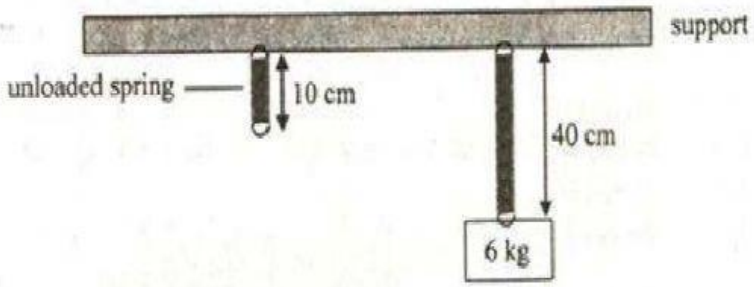
2. An unstretched spring of 15cm gives the load/extension graph shown. What length of spring will a load of 25N produce?



A. 5 cm B. 10 cm C. 15 cm D. 20 cm

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3. The diagram shows an unloaded spring hanging from a support and the same spring loaded with a 6 kg mass.



What will be the length of the spring when it is loaded with a 2 kg mass?

A. 20 cm B. 30 cm C. 40 cm D. 60 cm

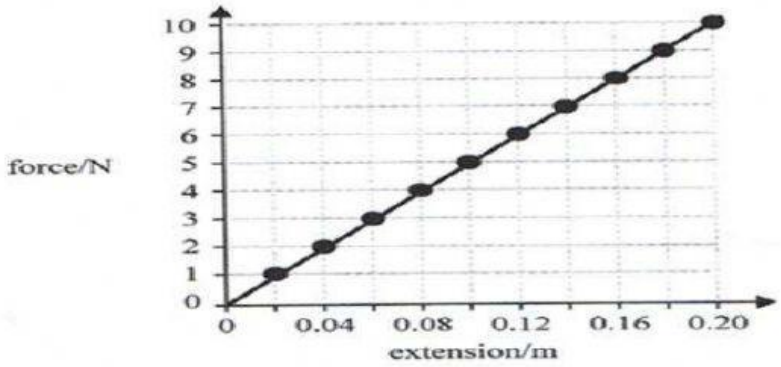
4. A student drew this graph from the results of an experiment, in which a spring was loaded.



What mistake did the student make?

A. A bar graph should have been drawn instead of a line graph.
B. Both aces should have identical equal intervals.
C. The axes were drawn the wrong way round.
D. the length of the spring was plotted instead of the extension.

4. A student applies various weights to a spring and records its extension for each weight. The results are plotted on the graph shown.



Which weight will cause a spring to stretch from 0.14m to 0.20m?

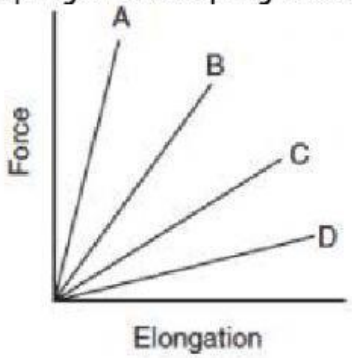
A. 3N B. 7 N C. 10N D. 17N

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5. A spring is 0.38m long. When it is pulled by a force of 3N, it stretches to 0.42m. What is the spring constant?

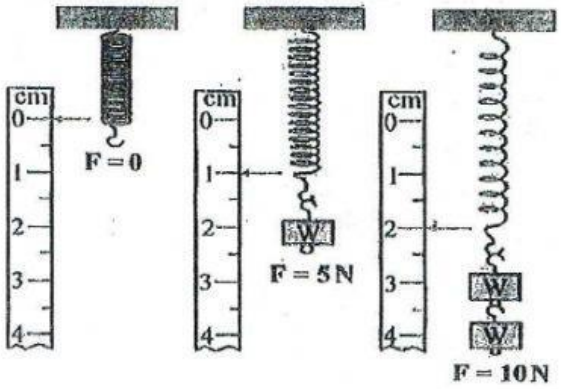
6. What force is applied to a spring that extends by 5cm if the spring constant, k, is 5N/m?

7. The graph below represents the relationship between the force applied to a spring and spring elongation for different springs. Which spring has the greatest spring constant?



Question 8

Forces are hung from a spiral spring in an experiment to investigate the effect of forces on extension. The spring used in the practical had an original length of 7 cm.



What is the total length of the spring when a force of 25 N is suspended from it?

A. 5.0 cm
B. 10.0 cm
C. 12.0 cm
D. 18.0 cm

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