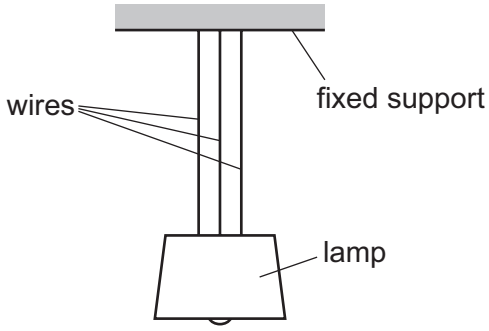
18 A lamp is suspended in equilibrium from a fixed support by three long identical wires.



The weight of the lamp causes each wire to have an extension of 0.40 cm. The height *h* of the lamp above the floor is measured.

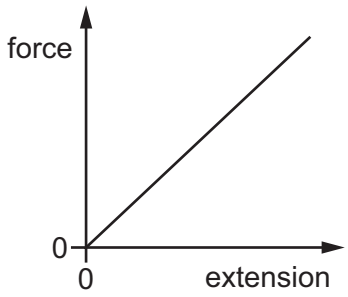
The middle wire suddenly breaks and the lamp falls a small distance as the extensions of the remaining two wires increase. The wires obey Hooke's law.

When the lamp is in equilibrium, the height *h* of the lamp above the floor is measured again.

What is the difference between the two values of *h*?

A 0.20 cm **B** 0.27 cm **C** 0.40 cm **D** 0.60 cm

19 The force–extension graph for a spring is shown.



What represents the work done to extend the spring?

A the area under the graph

B the gradient of the graph

C the reciprocal of the gradient of the graph

D twice the area under the graph