

23 Which phrase describes the strain at the elastic limit on a stress–strain graph?

- A** the maximum strain below which Hooke’s law is obeyed
- B** the maximum strain below which the deformation is plastic
- C** the minimum strain above which Hooke’s law is obeyed
- D** the minimum strain above which the deformation is plastic

18 A spring of unstretched length 0.10 m is suspended vertically from a support.

A weight of 2.0 N is attached to the bottom of the spring and its length increases to 0.15 m.

An additional weight of 4.0 N is then added to the bottom of the spring.

The spring obeys Hooke’s law.

How much extra elastic potential energy is stored in the spring due to the addition of the 4.0 N weight?

- A** 0.067 J **B** 0.13 J **C** 0.20 J **D** 0.40 J

19 A wire is extended by a tensile force so that its deformation is elastic.

What is meant by elastic deformation?

- A** The extension of the wire is proportional to the tensile force.
- B** The extension of the wire is **not** proportional to the tensile force.
- C** When the tensile force is removed, the wire does **not** return to its original length.
- D** When the tensile force is removed, the wire returns to its original length.