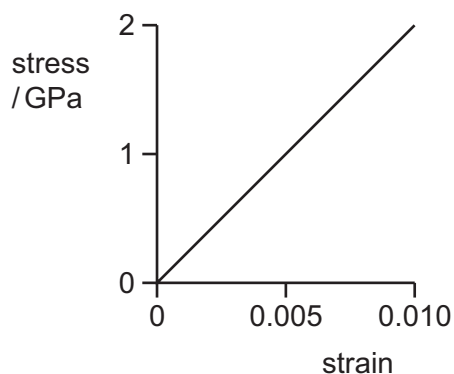


- 20** A spring is loaded with weights. When the weights are removed, the spring returns to its original length.

The spring is then loaded with heavier weights. When the weights are removed, the spring is longer than it was originally.

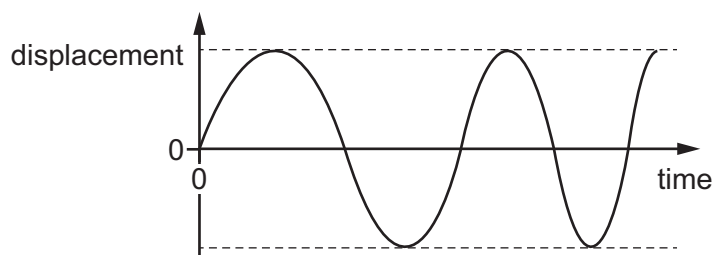
Which types of deformation are shown by this experiment?

- A** both elastic and plastic deformation
  - B** elastic deformation only
  - C** neither elastic nor plastic deformation
  - D** plastic deformation only
- 21** The stress-strain graph for a metal is shown.



What is the strain energy per unit volume of a rod made from this metal when the strain of the rod is 0.010?

- A**  $10 \text{ kJ m}^{-3}$
  - B**  $100 \text{ kJ m}^{-3}$
  - C**  $1.0 \text{ MJ m}^{-3}$
  - D**  $10 \text{ MJ m}^{-3}$
- 22** The displacement-time graph for a layer of air in the path of a sound wave is shown.



Which wave quantity is increasing?

- A** amplitude
- B** frequency
- C** period
- D** wavelength