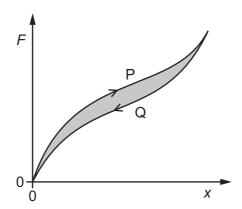
20 An unstretched rubber cord is stretched by a force. The force *F* is plotted against the extension *x*. *F* is slowly increased from zero, causing the cord to extend along path P. *F* is then reduced back to zero along path Q.



What is represented by the shaded area?

- **A** the elastic energy stored in the rubber cord
- **B** the energy that causes plastic deformation
- **C** the energy dissipated as heat
- **D** the work done to extend the rubber cord
- 21 A guitar string vibrates to create a sound. The speed of the wave in the guitar string is always $440\,\mathrm{m\,s^{-1}}$. The vibrating string creates a sound wave that moves in the air with a speed of $330\,\mathrm{m\,s^{-1}}$.

Which graph shows the variation of frequency f with the wavelength λ for the waves in the string and in the air?

