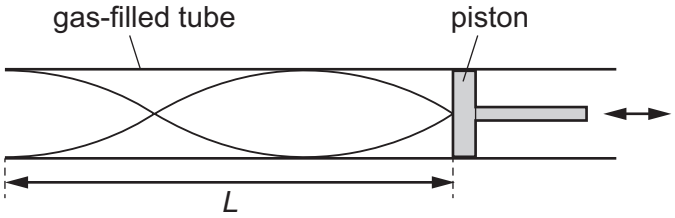
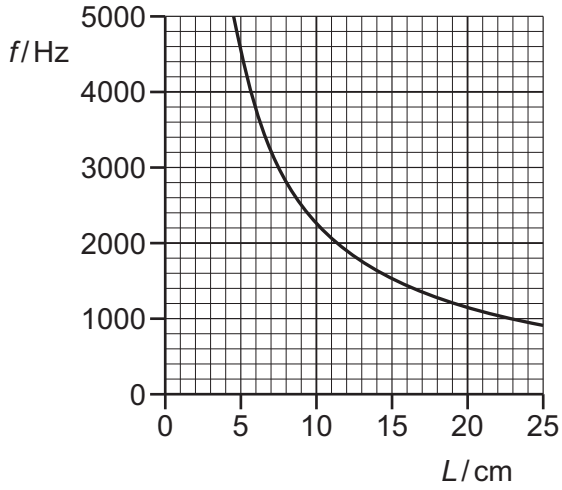
28 A stationary sound wave is formed in a gas-filled tube of length *L*, which is closed at one end by a piston. The length of the tube can be altered by moving the piston.

The length of the tube and the frequency of the sound are varied so that the stationary wave always has two antinodes and two nodes, as shown.



The graph shows the variation of the frequency *f* of the stationary sound wave with the length *L* of the tube.



What is the speed of sound in the gas in the tube?

A $150\,m\,s^{-1}$ **B** $230\,m\,s^{-1}$ **C** $300\,m\,s^{-1}$ **D** $340\,m\,s^{-1}$