21 Which statement about light waves and sound waves is **not** correct?

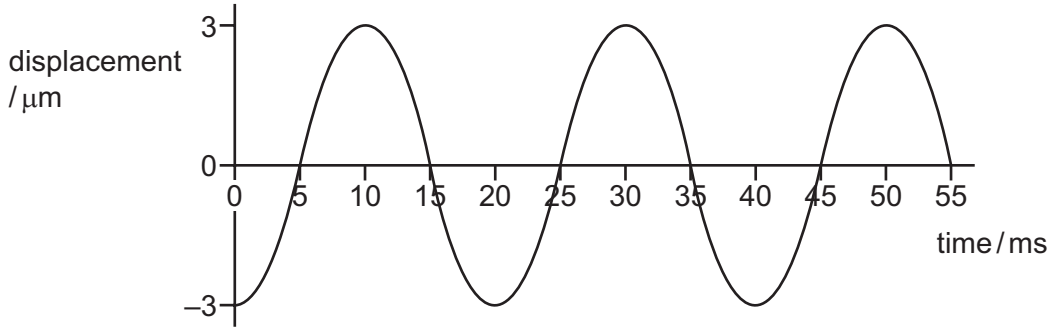
A Light waves and sound waves can both demonstrate the Doppler effect.

B Light waves are transverse waves and sound waves are longitudinal waves.

C Light waves can be diffracted but sound waves cannot.

D Light waves can travel in a vacuum but sound waves cannot.

22 The graph represents a sound wave.



Which statement is correct?

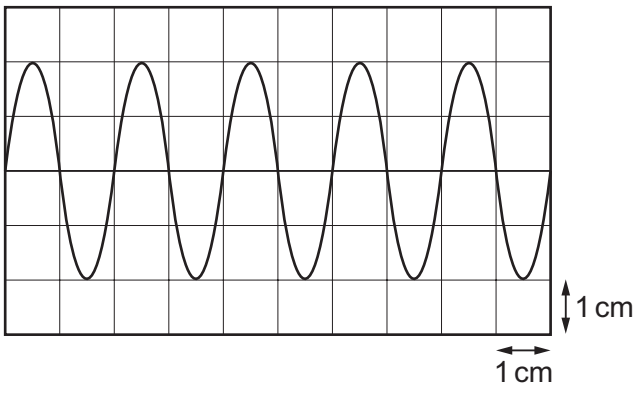
A The wave is longitudinal and has a period of 25 ms.

B The wave is longitudinal and has a frequency of 50 Hz.

C The wave is transverse and has an amplitude of 3 μm.

D The wave is transverse and has a wavelength of 20 ms.

23 A cathode-ray oscilloscope (CRO) is used to display a wave of frequency 5.0 kHz. The display is shown.



What is the time-base setting of the CRO?

A $10\ \mu s\ cm^{-1}$ **B** $100\ \mu s\ cm^{-1}$ **C** $10\ ms\ cm^{-1}$ **D** $100\ ms\ cm^{-1}$