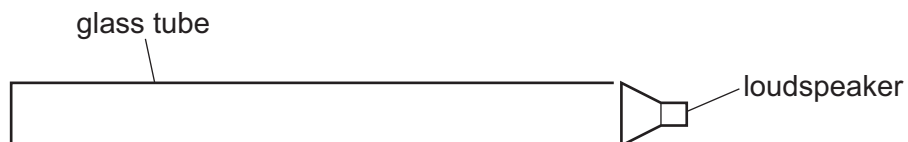


22 Which statement about transverse or longitudinal waves is **not** correct?

- A** Longitudinal waves can be used to demonstrate diffraction.
- B** Longitudinal waves can travel in a vacuum.
- C** Transverse waves can form stationary waves.
- D** Transverse waves can transfer energy.

23 A glass tube is closed at one end and has a loudspeaker at the other end.



A stationary wave is formed with a node at the closed end of the tube when the sound has frequency f_0 . There are no other nodes.

The frequency of the sound is then slowly increased.

What is the frequency of the sound that produces the next stationary wave?

- A** $1.25f_0$ **B** $1.50f_0$ **C** $2.00f_0$ **D** $3.00f_0$

24 With which waves can the Doppler effect be observed?

- A** all waves including sound and light
- B** light waves only
- C** sound and light waves only
- D** sound waves only

25 Which radiation could consist of waves of wavelength 0.5 nm?

- A** γ -rays
- B** ultraviolet
- C** visible light
- D** X-rays