25 A health inspector is measuring the intensity of a sound. Near a loudspeaker his meter records an intensity I. This corresponds to an amplitude A of the sound wave. At another position the meter gives an intensity reading of $2I$.

What is the corresponding sound wave amplitude?

A $\frac{A}{\sqrt{2}}$ **B** $\sqrt{2}\,A$ **C** $2A$ **D** $4A$

26 A sound wave is set up in a long tube, closed at one end. The length of the tube is adjusted until the sound from the tube is loudest.

What is the nature of the sound wave in the tube?

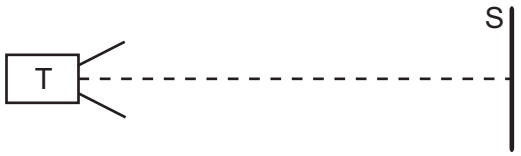
A longitudinal and progressive

B longitudinal and stationary

C transverse and progressive

D transverse and stationary

27 T is a microwave transmitter placed at a fixed distance from a flat reflecting surface S.



A small microwave receiver is moved steadily from T towards S and receives signals of alternate maxima and minima of intensity.

The distance between successive maxima is 15 mm.

What is the frequency of the microwaves?

A 1.0×10^7 Hz

B 2.0×10^7 Hz

C 1.0×10^{10} Hz

D 2.0×10^{10} Hz