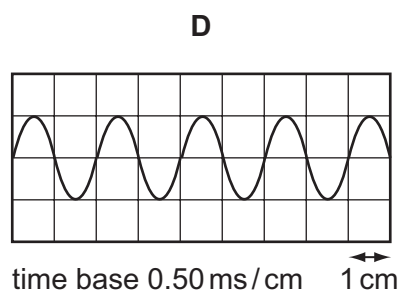
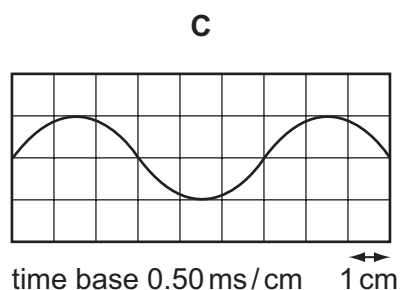
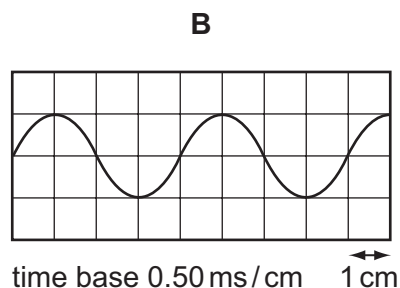
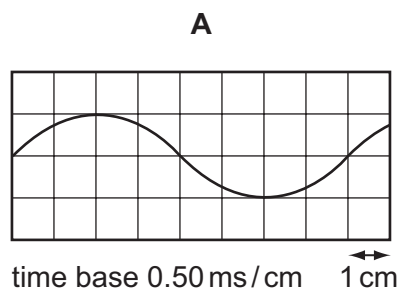


**30** A standing sound wave is set up between a loudspeaker and a wall.

A microphone is connected to a cathode-ray oscilloscope (c.r.o.) and is moved along a line directly between the loudspeaker and the wall. The amplitude of the trace on the c.r.o. rises to a maximum at a position X, falls to a minimum and then rises once again to a maximum at a position Y.

The distance between X and Y is 33 cm. The speed of sound in air is  $330 \text{ m s}^{-1}$ .

Which diagram represents the c.r.o. trace of the sound received at X?



**Space for working**