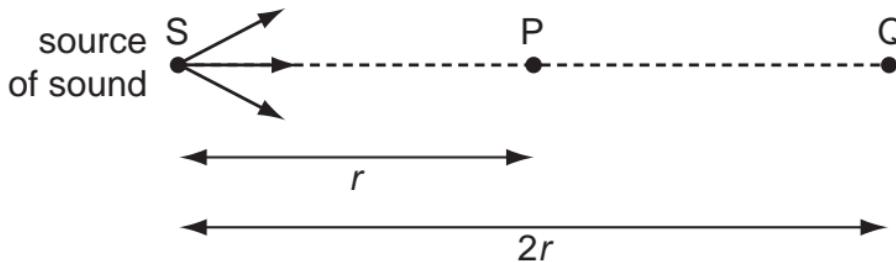


- 26 The intensity I of a sound at a point P is inversely proportional to the square of the distance x of P from the source of the sound. That is

$$I \propto \frac{1}{x^2}.$$



Air molecules at P, a distance r from S, oscillate with amplitude $8.0\text{ }\mu\text{m}$.

Point Q is situated a distance $2r$ from S.

What is the amplitude of oscillation of air molecules at Q?

A $1.4\text{ }\mu\text{m}$

B $2.0\text{ }\mu\text{m}$

C $2.8\text{ }\mu\text{m}$

D $4.0\text{ }\mu\text{m}$