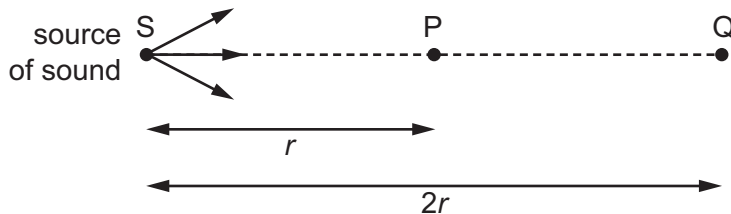


- 25** The intensity I of sound is inversely proportional to the square of the distance x from the source of the sound. This can be represented as

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



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

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

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

- A** $1.4\ \mu\text{m}$ **B** $2.0\ \mu\text{m}$ **C** $2.8\ \mu\text{m}$ **D** $4.0\ \mu\text{m}$

- 26** A hill separates a television (TV) transmitter from a house. The transmitter cannot be seen from