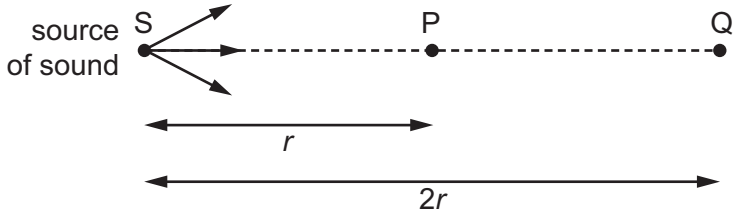
25 The intensity I of sound is inversely proportional to the square of the distance x from the source of the sound. This can be represented as

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



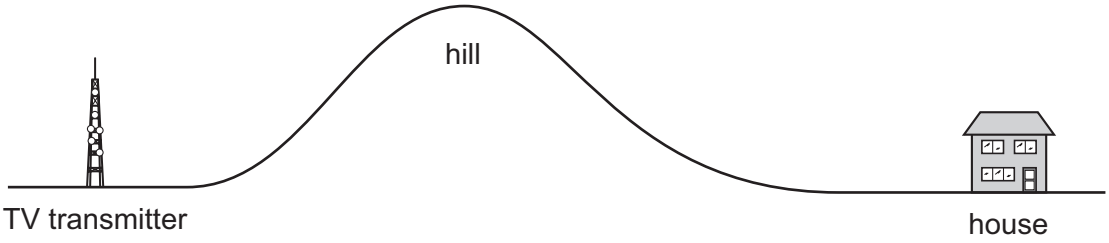
Air molecules at point P, a distance r from the source S, oscillate with amplitude 8.0 μm.

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

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

A 1.4 μm **B** 2.0 μm **C** 2.8 μm **D** 4.0 μm

26 A hill separates a television (TV) transmitter from a house. The transmitter cannot be seen from the house. However, the house has good TV reception.



By which wave effect at the hill could the TV signal reach the house?

A coherence

B diffraction

C interference

D reflection