

27 Sound waves, emitted by a small loudspeaker, are reflected by a wall.

The frequency f of the waves is adjusted until a stationary wave is formed with the antinode nearest the wall at a distance x from the wall.

Which expression gives f in terms of x and the speed of sound c ?

A $f = \frac{4c}{x}$

B $f = \frac{2c}{x}$

C $f = \frac{c}{2x}$

D $f = \frac{c}{4x}$

28 A diffraction grating has N lines per unit length and is placed at 90° to monochromatic light of