

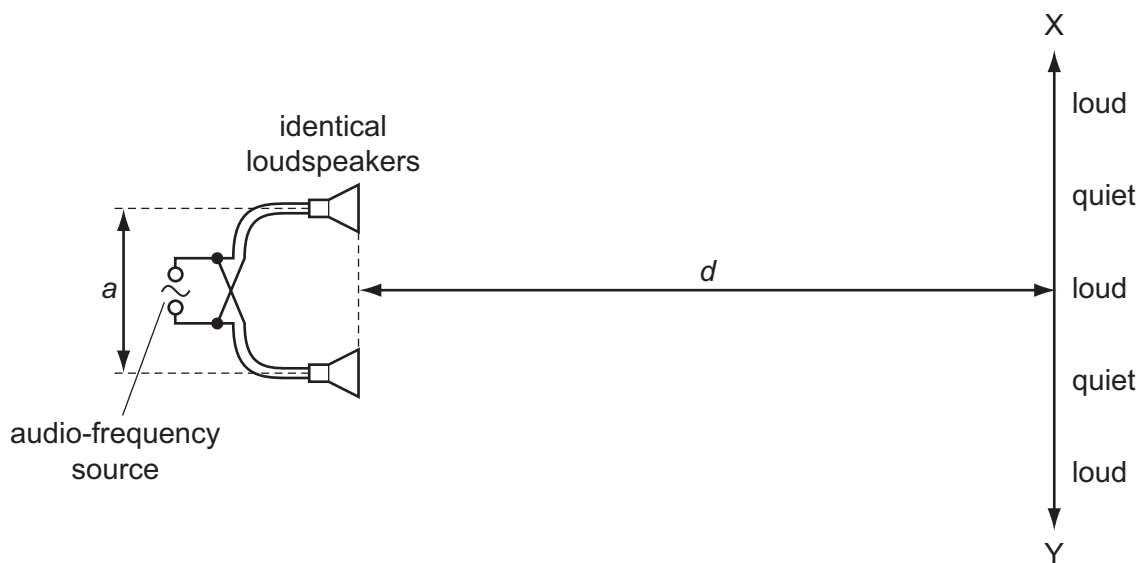
- 27 Two wires, X and Y, are made from different metals and have different dimensions. The Young modulus of wire X is twice that of wire Y. The diameter of wire X is half that of wire Y.

Both wires are extended with equal strain and obey Hooke's law.

What is the ratio $\frac{\text{tension in wire X}}{\text{tension in wire Y}}$?

- A $\frac{1}{8}$ B $\frac{1}{2}$ C 1 D 8

- 28 The diagram shows two identical loudspeakers driven in phase by a common audio-frequency source.



When a student moves along line XY, she notices that there are variations in the loudness of the sound. The regions in which the sound is heard are alternately loud and quiet as indicated on the diagram.

How may the distance between loud regions be reduced?

- A decreasing the distance a between the speakers
B increasing distance d
C increasing the frequency of the audio-frequency source
D increasing the power output from the audio-frequency source

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