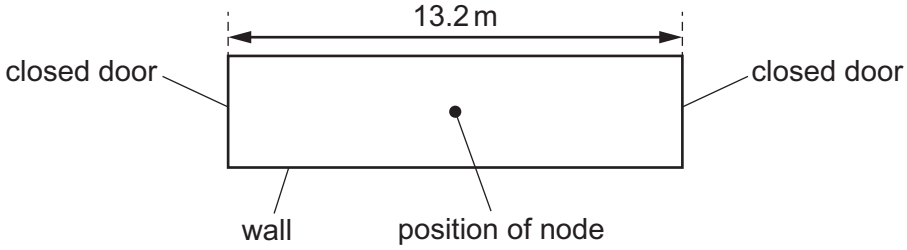
25 A corridor is 13.2 m long and has closed doors that reflect sound at both ends. The speed of sound in the air in the corridor is 330 m s^{-1}.



What is the lowest frequency of sound that could create a stationary wave in the corridor with a node halfway along it?

A 0.040 Hz **B** 13 Hz **C** 25 Hz **D** 50 Hz

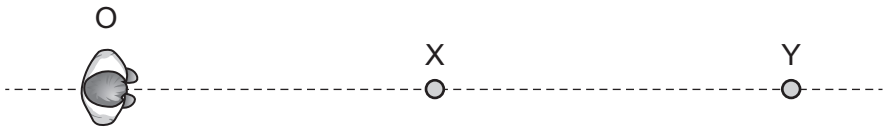
26 Water waves of wavelength λ are formed in a ripple tank. The waves are diffracted as they pass through a narrow gap of width d (d is greater than λ).

Which gap width and which wavelength will cause the largest decrease in the amount of diffraction?

	gap width	wavelength
A	$\frac{1}{2}d$	$\frac{1}{2}\lambda$
B	$\frac{1}{2}d$	2λ
C	$2d$	$\frac{1}{2}\lambda$
D	$2d$	2λ

27 Two loudspeakers X and Y emit sound waves that are in phase and of wavelength 0.75 m.

An observer O is able to stand anywhere on a straight line that passes through X and Y, as shown. The observer stands at a point where the sound waves from X and Y meet in phase.



What could be the distances OY and XY?

	distance OY / m	distance XY / m
A	1.25	3.50
B	2.00	2.75
C	2.75	2.00
D	3.25	1.50