

- 25 A stationary wave is set up on a stretched string.

The diagram shows the string at two instants of time when it has maximum displacement.



The oscillations of point P on the string have amplitude A .

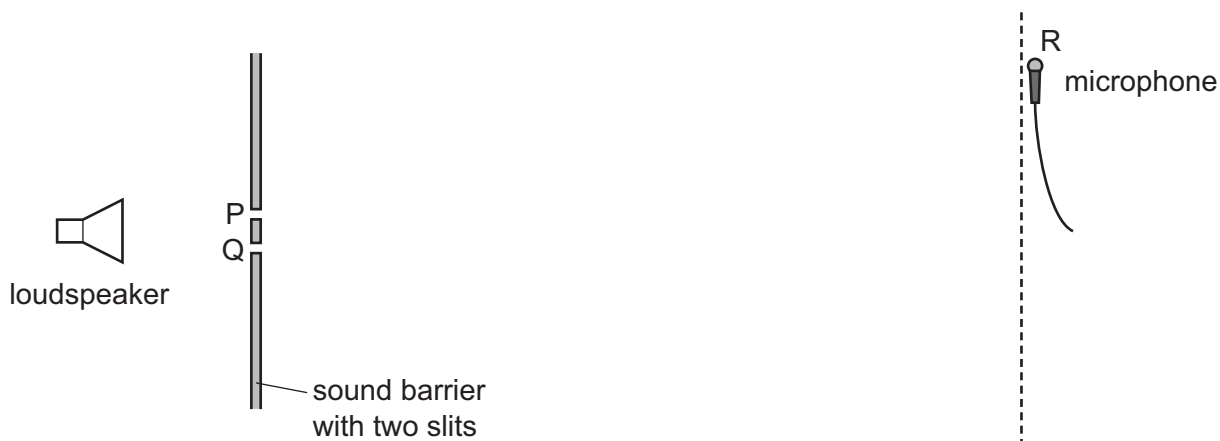
What is the distance moved by P from the position shown in the diagram after half a time period of the wave?

- A** 0 **B** A **C** $2A$ **D** $4A$

- 26 Which statement is an example of the diffraction of light?

- A** the addition of the amplitudes of two beams of light which are in phase
- B** the change in direction of a beam of light when passing from air into water
- C** the separation of a beam of white light into a spectrum of colours using a prism
- D** the spreading of a beam of light as it passes through a small hole

- 27 Sound waves of wavelength λ are emitted by a loudspeaker and pass through two slits P and Q. Two sound waves from the slits meet at R.



What is the condition for an intensity maximum (loud sound) to be detected by a microphone at R?

- A** The amplitudes of the two waves at R must be the same.
- B** The distance PQ must be smaller than the wavelength λ .
- C** The two waves from the slits must have travelled the same distance to R.
- D** The two waves must be in phase at R.