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** 2*A* **D** 4*A*

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

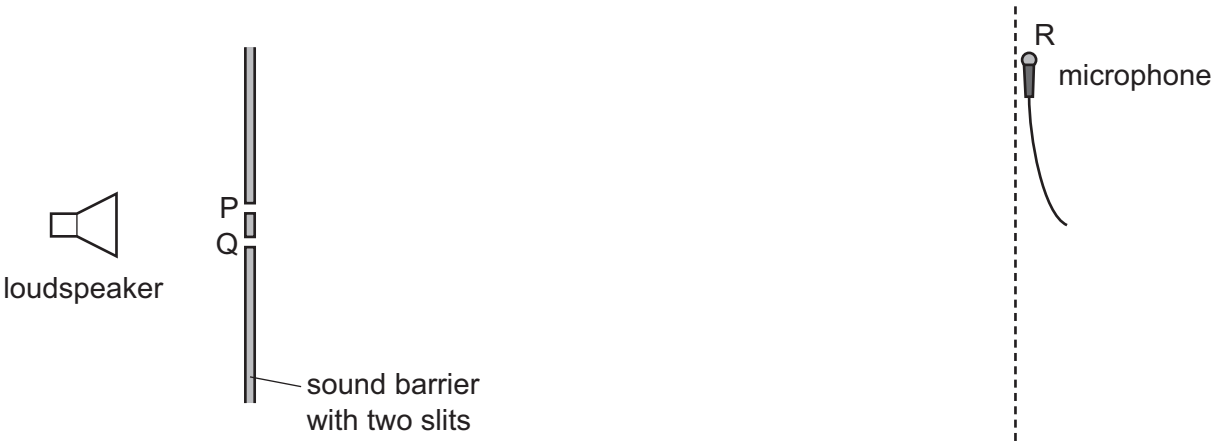
A the addition of the amplitudes of two beams of light which are in phase

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.