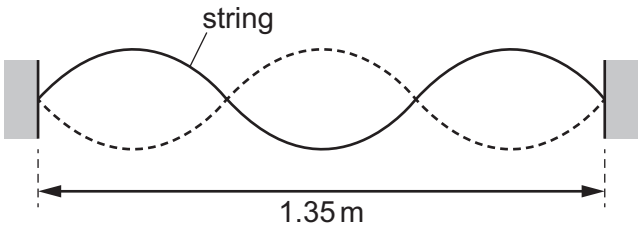
27 A stationary wave is produced on a string that is stretched between two fixed points that are a distance of 1.35 m apart, as shown.

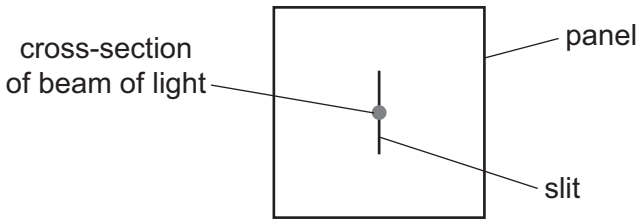


The speed of the waves on the string is 450 m s^{-1}.

What is the frequency of oscillation of the stationary wave?

A 333 Hz **B** 405 Hz **C** 500 Hz **D** 1000 Hz

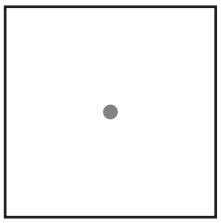
28 A beam of laser light is directed towards a narrow slit.



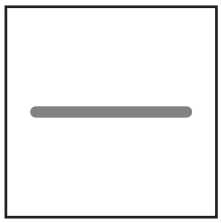
After emerging from the other side of the slit, the diffracted light then falls on a screen.

What is the pattern of light seen on the screen?

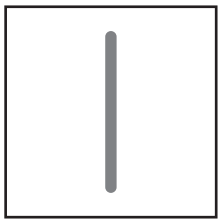
A



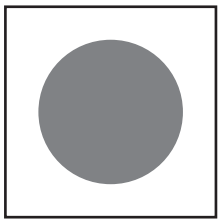
B



C



D



29 Two waves, each with a constant amplitude, interfere and produce an interference pattern. The pattern has minima at fixed points where the displacement is zero at all times.

Which statement describes the two waves?

A They must be coherent and of the same amplitude.

B They must be coherent but not necessarily of the same amplitude.

C They must be of the same amplitude but not necessarily coherent.

D They must not be coherent or of the same amplitude.