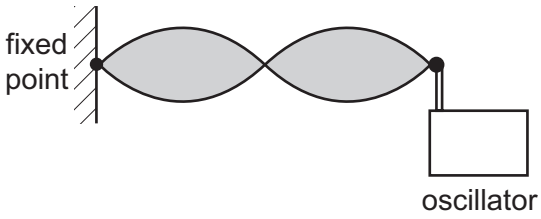
28 The speed of a transverse wave on a stretched string can be changed by adjusting the tension of the string. A stationary wave pattern is set up on a stretched string using an oscillator set at a frequency of 650 Hz.



How must the wave be changed to maintain the same stationary wave pattern if the applied frequency is increased to 750 Hz?

A Decrease the speed of the wave on the string.

B Decrease the wavelength of the wave on the string.

C Increase the speed of the wave on the string.

D Increase the wavelength of the wave on the string.

29 Noise reduction headphones actively produce their own sound waves in order to cancel out external sound waves.

A microphone in the headphones receives waves of one frequency. A loudspeaker in the headphones then produces a wave of that frequency but of a different phase.

What is the phase difference between the external sound wave and the wave produced by the loudspeaker in the headphones?

A 90° **B** 180° **C** 270° **D** 360°

Space for working