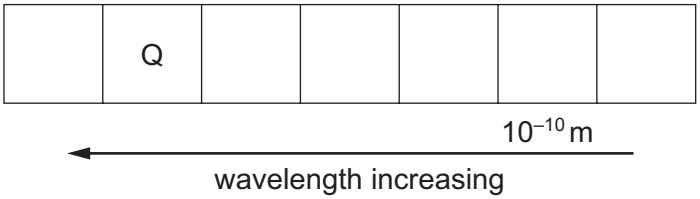
25 A buzzer emitting sound of frequency 846 Hz is attached to a string and rotated in a horizontal circle. The linear speed of the buzzer is 25.0 m s^{-1}.

The speed of sound is 340 m s^{-1}.

What is the maximum frequency heard by the observer?

A 783 Hz **B** 788 Hz **C** 908 Hz **D** 913 Hz

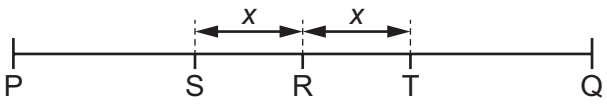
26 The diagram shows the principal regions of the electromagnetic spectrum, with some details labelled. The diagram is not to scale.



What is a typical order of magnitude of the wavelength of the radiation in region Q?

A 10^{-7} m **B** 10^{-5} m **C** 10^{-2} m **D** 10^{0} m

27 P and Q are fixed points at the end of a string. A transverse stationary wave of constant maximum amplitude is formed on the string.



P, R and Q are the only points on the string where nodes are formed. S and T are two points on the string at a distance *x* from R.

What is the relationship between points S and T?

A the same amplitude and in phase

B different amplitudes and in phase

C the same amplitude and a phase difference of 180°

D different amplitudes and a phase difference of 180°