24 The speed v of waves in deep water is given by the equation
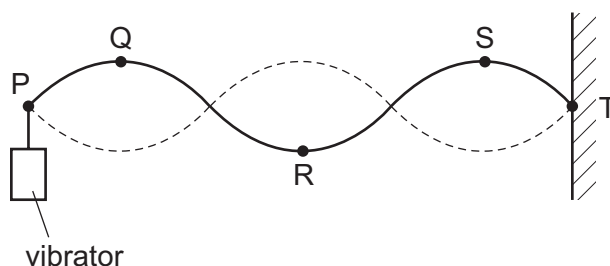
$$v^2 = \frac{g\lambda}{2\pi}$$

where λ is the wavelength of the waves and g is the acceleration of free fall.

A student measures the wavelength λ and the frequency f of a number of these waves.

Which graph should he plot to give a straight line through the origin?

A f^2 against λ

B f against λ^2

C f against $\dfrac{1}{\lambda}$

D f^2 against $\dfrac{1}{\lambda}$

25 A stationary wave on a stretched string is set up between two points P and T.

Which statement about the wave is correct?

A Point R is at a node.

B Points Q and S vibrate in phase.

C The distance between P and T is three wavelengths.

D The wave shown has the lowest possible frequency.

Space for working