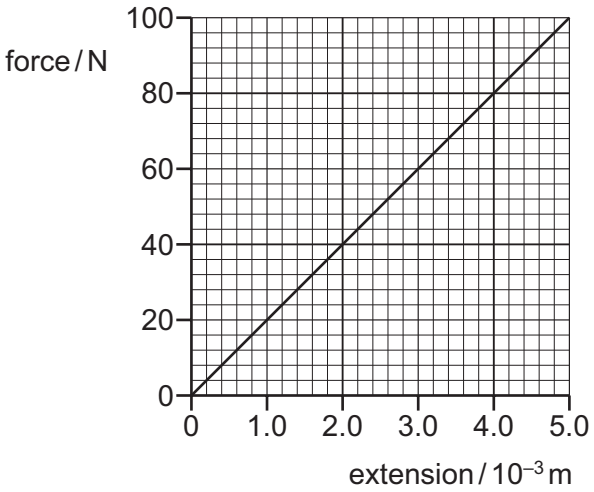
21 The graph shows the force–extension graph for a wire.



The wire is already extended by a force of 60 N.

How much work is done to increase the extension of the wire by 2.0 mm?

A 0.040 J **B** 0.090 J **C** 0.16 J **D** 0.25 J

22 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 $\frac{1}{\lambda}$

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