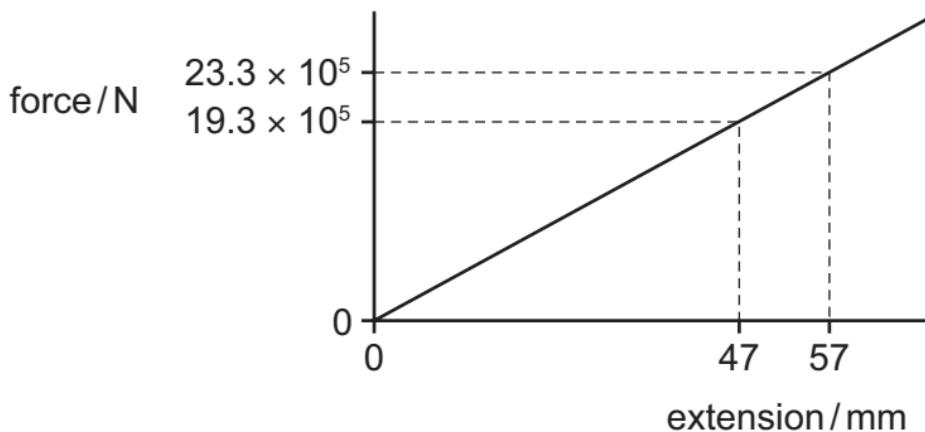


- 19 A cable on a suspension bridge supports a weight of $19.3 \times 10^5 \text{ N}$. This weight causes the cable to stretch by 47 mm.

A lorry crossing the bridge then increases the force on the cable to $23.3 \times 10^5 \text{ N}$. The force-extension graph for the cable is shown.



What is the **increase** in strain energy in the cable when the lorry is crossing the bridge?

A 21 kJ

B 23 kJ

C 45 kJ

D 66 kJ