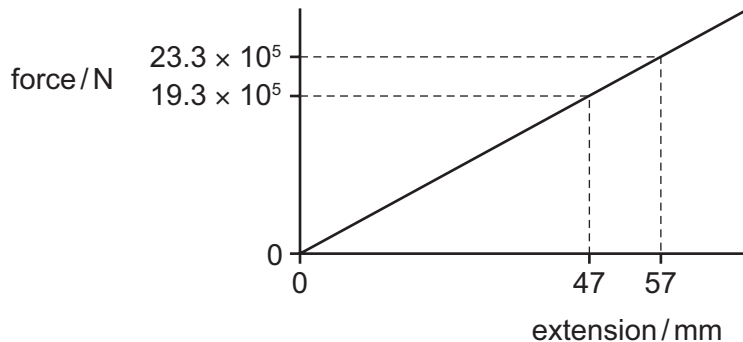


- 19 A cable on a suspension bridge supports a weight of  $19.3 \times 10^5 \text{ N}$ . This weight causes the cable to stretch by 47 mm.

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