

8 A stress σ is applied across the ends of a wire of cross-sectional area A .

Work W is done to extend the wire by Δx .

Which of the following could be used to determine W ?

☐ A $W = \frac{1}{2} \times \frac{\sigma}{A} \times \Delta x$

☐ B $W = \frac{1}{2} \times \frac{\sigma}{A} \times \Delta x^2$

☐ C $W = \frac{1}{2} \times \sigma \times A \times \Delta x$

☐ D $W = \frac{1}{2} \times \sigma \times A \times \Delta x^2$

(Total for Question 8 = 1 mark)