

10 A wire of length L and diameter d is fixed at one end. A force F is applied to the wire causing an extension e .

A second wire, made of the same material, of length $2L$ and diameter $\frac{d}{2}$, is fixed in the same way. A force $2F$ is applied to this wire.

What is the extension of the second wire?

☐ **A** $\frac{e}{4}$

☐ **B** e

☐ **C** $8e$

☐ **D** $16e$

(Total for Question 10 = 1 mark)