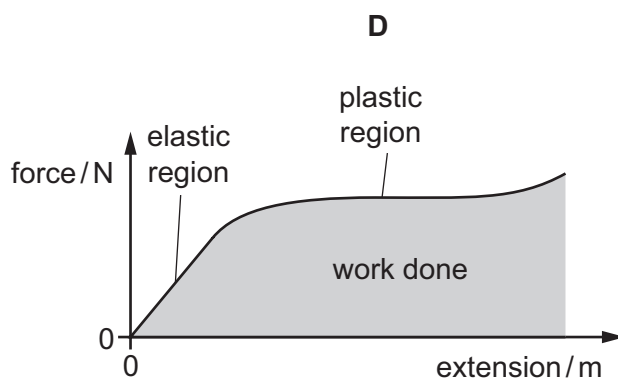
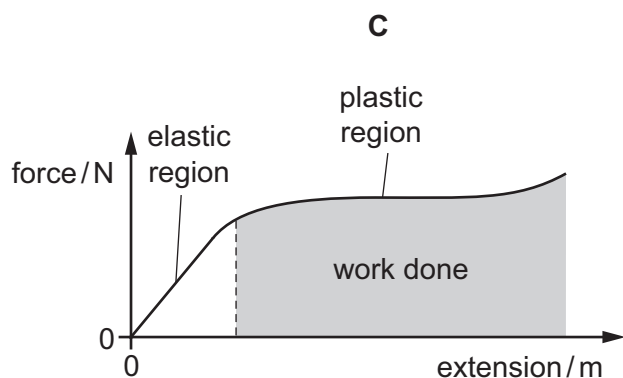
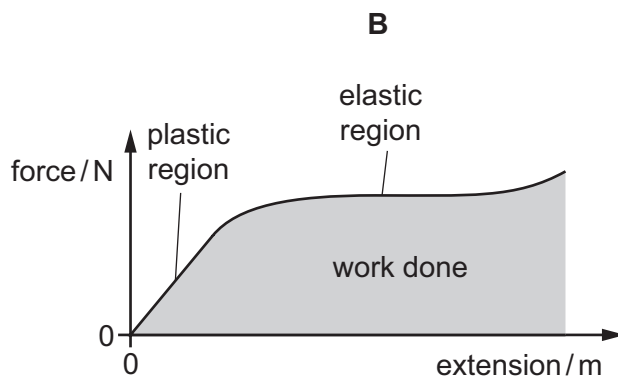
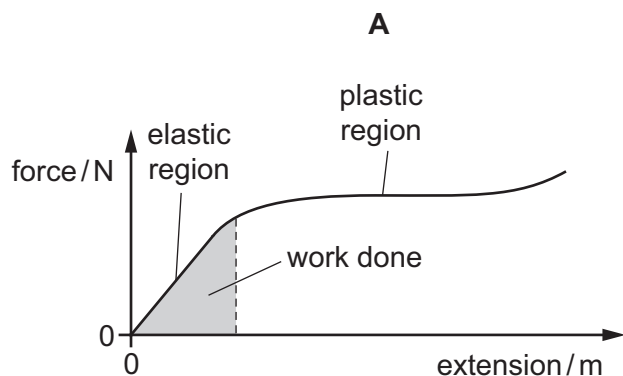


**21** A metal wire is stretched to breaking point and the force-extension graph is plotted.

Which graph is correctly labelled with the elastic region, the plastic region and the area representing the work done to stretch the wire until it breaks?



**22** A copper wire hangs vertically from a fixed point. A load is attached to the lower end of the wire producing an extension  $x$ . The wire obeys Hooke's law.

Which single change gives an extension  $2x$ ?

- A** Halve the cross-sectional area of the wire.
- B** Halve the diameter of the wire.
- C** Halve the length of the wire.
- D** Halve the load on the wire.