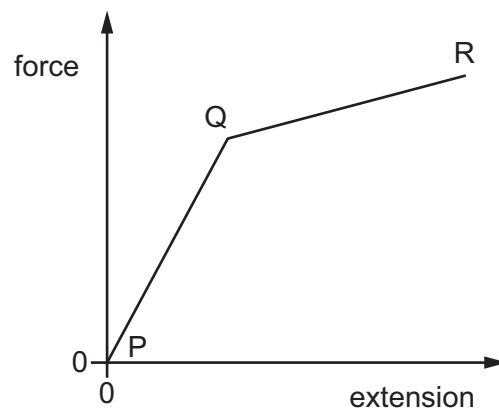**20** A scientist is investigating the properties of a new material. She plots a force-extension graph for the material up to its breaking point.

Which statement **must** be correct?

A The area under the graph from P to R is the strain energy stored in the material.

B The area under the graph from P to R is the work done in stretching the material.

C The material stretches elastically from Q to R.

D The material stretches plastically from P to Q.

21 A progressive sound wave in air has amplitude x_0 and intensity I.

The amplitude of the wave increases to $3x_0$.

What is the new intensity of the wave?

A $\dfrac{I}{9}$ **B** $\dfrac{I}{3}$ **C** $3I$ **D** $9I$