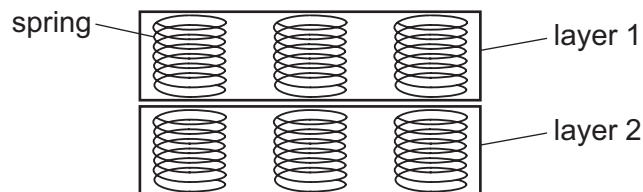


- 23 The behaviour of a wire under tensile stress may be described in terms of the Young modulus E of the material of the wire and of the force per unit extension k of the wire.

For a wire of length L and cross-sectional area A , what is the relation between E and k ?

- A $E = \frac{A}{kL}$ B $E = \frac{kA}{L}$ C $E = \frac{kL}{A}$ D $E = \frac{L}{kA}$

- 24 The diagram shows the structure of part of a mattress.



The manufacturer wants to design a softer mattress (one which will compress more for the same load).

Which change will **not** have the desired effect?

- A using more layers of springs
B using more springs per unit area
C using springs with a smaller spring constant
D using springs made from wire with a smaller Young modulus
- 25 In which order of magnitude are the frequencies of electromagnetic waves in the visible spectrum?
- A 10^{12} Hz B 10^{13} Hz C 10^{14} Hz D 10^{15} Hz

Space for working