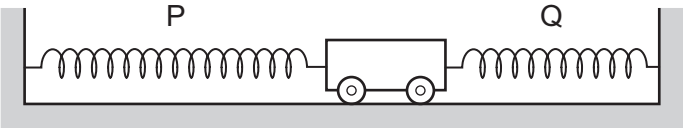
24 A trolley is held at rest between two steel springs.



Each spring has an unstretched length of 0.10 m.

Spring P has spring constant 60 N m^{-1}.
Spring Q has spring constant 120 N m^{-1}.

Spring P has an extension of 0.40 m.

What is the extension of spring Q?

A 0.10 m **B** 0.20 m **C** 0.30 m **D** 0.80 m

25 A lift is supported by two steel cables, each of length 10 m and diameter 0.5 cm.

The lift drops 1 mm when a man of mass 80 kg steps into the lift.

What is the best estimate of the value of the Young modulus of the steel?

A 2×10^{10} N m^{-2}

B 4×10^{10} N m^{-2}

C 2×10^{11} N m^{-2}

D 4×10^{11} N m^{-2}

Space for working