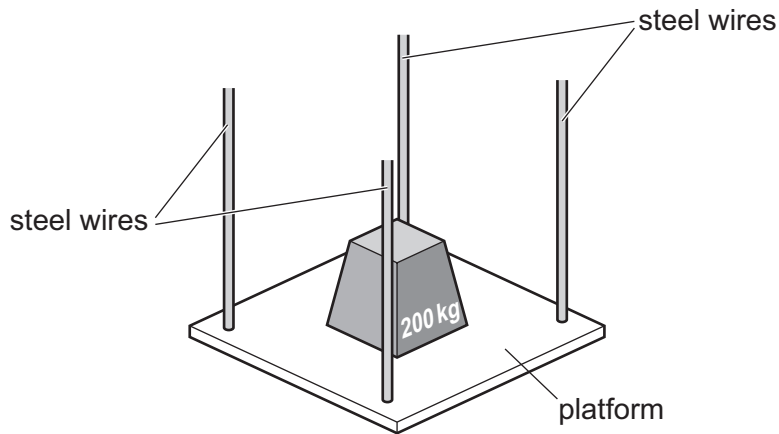


- 20** A platform is suspended by four steel wires. Each wire is 5.0 m long and has a diameter of 3.0 mm. The Young modulus of steel is  $2.1 \times 10^{11}$  Pa.



The wires obey Hooke's law when a load of mass 200 kg is placed on the platform.

How far will the platform descend because of the extension of the wires?

- A**  $1.7 \times 10^{-4}$  m    **B**  $4.1 \times 10^{-4}$  m    **C**  $1.7 \times 10^{-3}$  m    **D**  $6.6 \times 10^{-3}$  m

- 21** A tensile force of 7.00 MN is applied to a steel wire of length 1.00 m. This causes the wire to extend by 1.00 mm. The Young modulus of steel is  $2.1 \times 10^{11}$  Pa. Calculate the diameter of the wire.