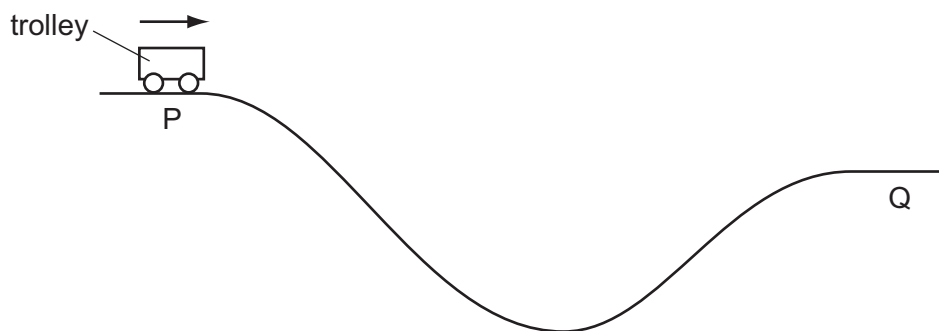


- 20** A trolley runs from P to Q along a track. At Q its potential energy is 50 kJ less than at P.



At P, the kinetic energy of the trolley is 5 kJ. Between P and Q, the work the trolley does against friction is 10 kJ.

What is the kinetic energy of the trolley at Q?

- A** 35 kJ **B** 45 kJ **C** 55 kJ **D** 65 kJ
- 21** The Young modulus of steel is determined using a length of steel wire and is found to have the value E .

Another experiment is carried out using a wire of the same steel, but of half the length and half the diameter.

What value is obtained for the Young modulus in the second experiment?

- A** $\frac{1}{2}E$ **B** E **C** $2E$ **D** $4E$

Space for working