

- 22** Pollen grains are suspended in a liquid and are illuminated strongly. When observed under a microscope they are seen to be in continuous random motion.

What is the reason for this?

- A** convection currents in the liquid
- B** evaporation of the liquid
- C** molecules of the liquid colliding with the pollen grains
- D** pollen grains colliding with each other

- 23** 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**