

17 A piston in a gas supply pump has an area of  $400\text{ cm}^2$ . The pump moves the gas against a fixed pressure of  $3000\text{ Pa}$ .

During part of its stroke, the piston moves a distance of  $25\text{ cm}$  in one direction. How much work is done by the piston during this movement?

A  $30\text{ J}$

B  $3.0 \times 10^3\text{ J}$

C  $3.0 \times 10^5\text{ J}$

D  $3.0 \times 10^7\text{ J}$