17 A sample of gas is sealed in a cylinder by a piston. The frictionless piston is free to move, so that the pressure of the gas remains constant at 1.80×10^5 Pa.

The gas initially occupies a volume of $2.40 \times 10^{-4}\,m^3$.

The gas now does 14.4 J of work.

What is the volume of the gas after doing this work?

A $0.80 \times 10^{-4}\,m^3$

B $1.60 \times 10^{-4}\,m^3$

C $3.20 \times 10^{-4}\,m^3$

D $4.00 \times 10^{-4}\,m^3$

[Turn over