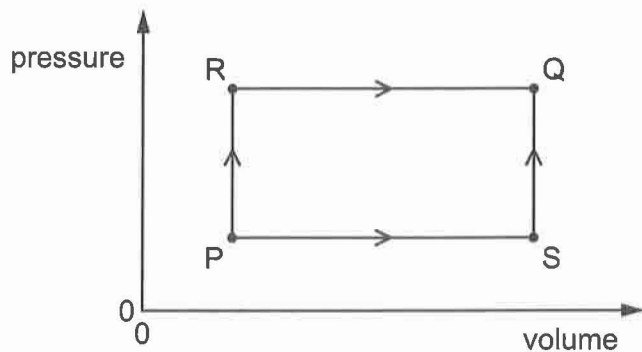19 A fixed mass of gas undergoes changes of pressure and volume as shown.

When the gas is taken from state P to state Q by the stages PR and RQ, 3 J of work is done by it and there is a thermal transfer of 8 J of energy into it.

When the same resultant change is achieved by stages PS and SQ, 1 J of work is done by the gas.

In this case, what is the thermal transfer of energy?

A   4 J out of the gas

B   6 J into the gas

C   8 J into the gas

D   10 J into the gas