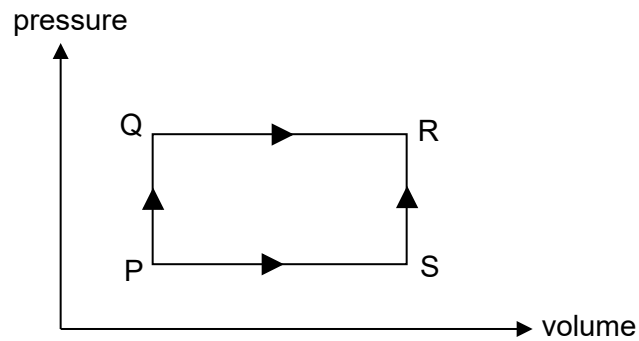**14** A fixed mass of ideal gas undergoes changes of pressure and volume as shown below.

When the gas is taken from state P to state R by the stages PQ and QR, 8 J of heat are absorbed by it and 3 J of work are done by it. When the same resultant change is achieved by stages PS and SR, 1 J of work is done by the gas. In this case,

A 12 J of heat are liberated.

B 10 J of heat are absorbed.

C 8 J of heat are absorbed.

D 6 J of heat are absorbed.