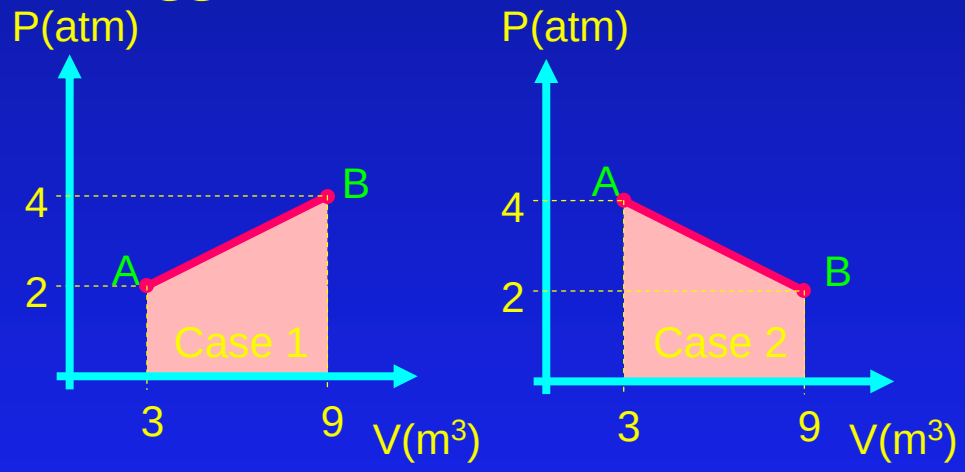
PV ACT 2

Shown in the picture below are the pressure versus volume graphs for two thermal processes, in each case moving a system from state A to state B along the straight line shown. In which case is the change in internal energy of the system the biggest?

A. Case 1 ⟵ correct

B. Case 2

C. Same



$\Delta U = 3/2\,(p_f V_f - p_i V_i)$

Case 1: $\Delta U = 3/2(4\times9-2\times3)=45$ atm-m³

Case 2: $\Delta U = 3/2(2\times9-4\times3)= 9$ atm-m³