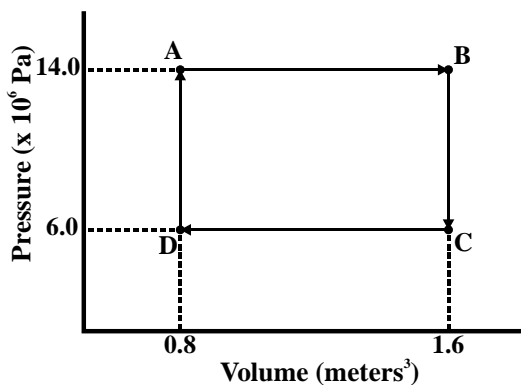


## Quiz 14:3D Thermodynamics – Pressure Volume Graphs

Each of the following questions refers to the graph at the right which plots the processes of a reversible heat engine on 2800 moles of an ideal mono-atomic gas through one complete cycle.

1. What is the temperature of this gas when at point C in the diagram? [3 pts]



2. How much work was done on or by the gas during process CD? [3 pts]

Useful Constants	
$R$	$= 8.3145 \text{ J/mole}^\circ\text{K}$
1 mole	$= 6.023 \times 10^{23} \text{ molecules}$
$c_v$	$= 12.5 \text{ J/mole}^\circ\text{K}$
$c_p$	$= 20.8 \text{ J/mole}^\circ\text{K}$

3. How much was done on or by this gas during the process BC? [3 pts]

4. How much heat entered/exited the system during the process BC?

5. What is the net work done by this system during one complete cycle?