

Answer on Question #69874 Physics / Molecular Physics | Thermodynamics

In Boyle's law, If I increase the temperature of the gas enclosed in a cylinder from 0°C to 25°C in graph between pressure and volume, which one increase and which decrease?

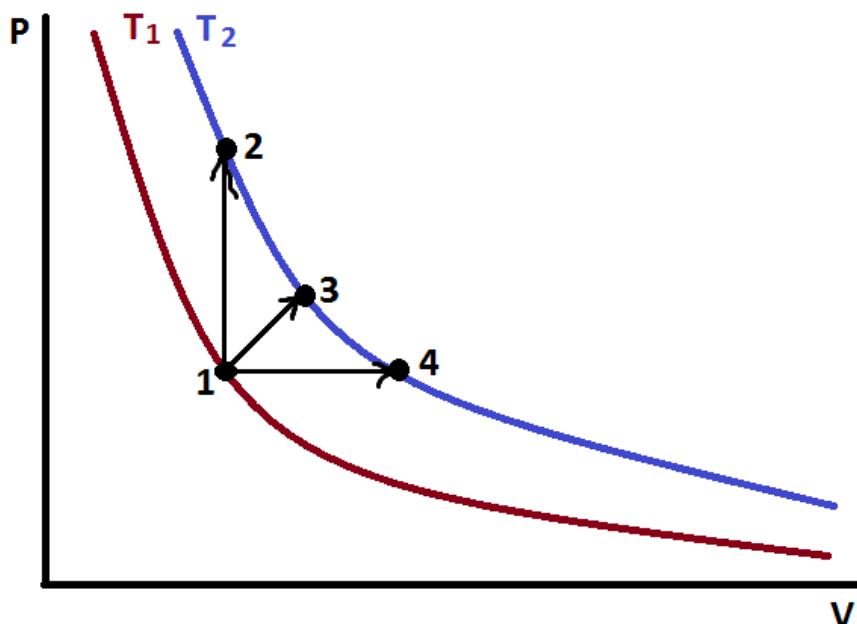
Solution:

The mathematical equation for Boyle's law is:

$$PV = k.$$

Where P is the pressure, V denotes the volume of the gas and k is a constant value that depend on the temperature of the system.

If the temperature of the gas enclosed in a cylinder will increase the product PV would increase too.



There are many transitions from initial to final state that satisfy condition: PV increase. For examples see transitions 1-2 (volume is constant, pressure increases), 1-3 (both volume and pressure increases), 1-4 (volume increases, pressure is constant).

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