

### 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?

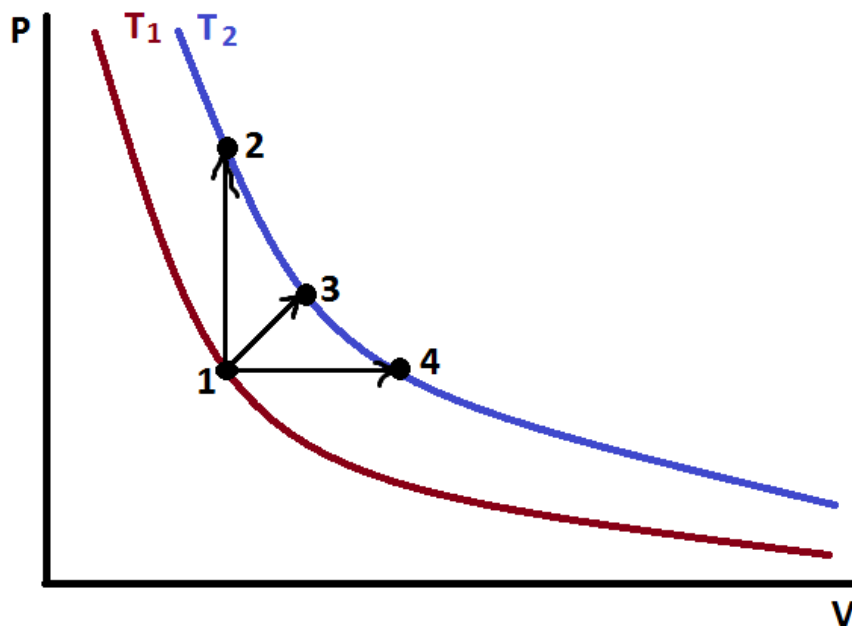
#### Solution:

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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