Thermodynamic Systems and P-V Diagrams

- ideal gas law: PV = nRT
- for n fixed, P and V determine "state" of system
  - ➔T = PV/nR
  - ➔U = (3/2)nRT = (3/2)PV

  for monatomic gas
- Examples (ACT):
  - ➔ which point has highest T?
    - » B
  - ➔ which point has lowest U?
    - » C
  - ➔ to change the system from C to B, energy must be added to system