

# Compression Work

Thermodynamics

Spring 2021

College of the Atlantic.

1. Consider the three-step cycle for an ideal gas shown in the Figure.
  - (a) Describe physically what is happening at each step of the cycle
  - (b) For each step in the cycle, determine:
    - i.  $W$ , the work done on the gas.
    - ii.  $\Delta U$ , the sign of the change in the internal energy of the gas. (I.e., is it positive or negative.)
    - iii.  $Q$ , the sign of heat added to the gas
  - (c) What is the sign of each of these quantities for the entire cycle?

