

NAME:

STUDENT ID:

Problem

A rigid tank whose volume is 1 m^3 initially contains refrigerant 134a at a pressure of 800 kPa and a temperature of 50°C . The tank is now cooled to a final temperature of 20°C .

- a. Determine the mass of refrigerant 134a.
- b. Determine the final phase of refrigerant 134a (show your work)
- c. Determine the change in specific internal energy during the process (Δu)
- d. Show the process on the T - v diagram with respect to saturation lines.