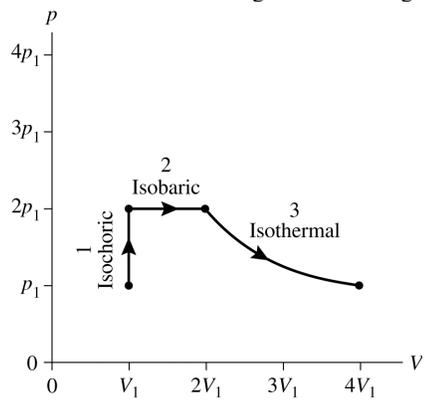**16.54.** **Model:** Assume that the gas is an ideal gas.

Solve:

Assess: For the isothermal process, the pressure must be halved as the volume doubles. This is because p_1 is proportional to $1/V_1$ for isothermal processes.