

Pressure in a cylinder following combustion



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A. If the initial volume is 0.02 L and the pressure is 5.4 atm as in the previous problem what is the final volume if the pressure drops to 1 atm at constant temperature?

B. In order to drive the combustion process fuel and air are forced into the cylinder. How many moles of gas are needed at the initial conditions ($V_1 = 0.02$ L, $T = 1200$ K) in order for the expansion to go to completion (i.e. for the cylinder to expand to 0.5 L at 1200 K)?