Shrink a Balloon – Problem Set

1. If a spherical balloon with a 9in diameter, was blown up with helium gas, what is the volume of helium in the balloon (in cm3)? Vsphere = 4/3 π r3.
2. Knowing the density of helium gas is 0.0001786 g/cm3,how many moles of helium are in the balloon?
3. What is the pressure of helium, inside the balloon, assume the balloon is at 25˚C?

1. The balloon is placed in liquid nitrogen, which is -196˚C, and the pressure of the balloon decreases to 0.81 atm, what is the volume of helium inside the balloon?