

Chapter 18 - Exam Questions

1. Calculate the pressure for the following circumstances:
  - (a) 2.00 atm of air
  - (b) 2.00 atm of oxygen
  - (c) 2.00 atm of nitrogen
  
2. Calculate the final pressure of a sample of gas that is compressed to 1/10th of its original temperature from 100 atm at 300 K. What law is that? Derive the law from the ideal gas law.
  
  
  
  
  
  
  
  
3. Calculate the initial pressure of 400 g of a sample of gas that is changed to 200 g by cooling to 50% of its initial pressure. What law is that? Derive the law from the ideal gas law.
  
  
  
  
  
  
  
  
4. Helium flows in a pipe that is full of hydrogen molecules and water vapor. The mass of the 100 cm<sup>3</sup> of gas is 1.00 g. What is the pressure of the gas at 300 K? What law is that? Derive the law from the ideal gas law.