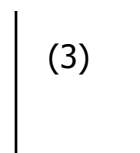
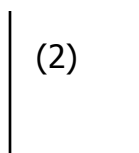
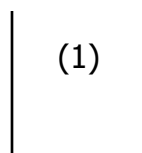


Practice problems for Gas Laws

1. 2.5 L of oxygen at 26°C and one atm is changed to a container of 10 L. If the pressure is held constant, what is the new temperature in Kelvin?
2. An unknown gas at STP is made to fit into a container of 146 cm³ but the temperature changes to 6°C and 202.6 kPa. What is the size of the original vessel?
3. Highly pressurized nitrogen at 24 atm and 126°C is inside a tube of three quarts. If this same gas is placed into a large balloon of 50 gallons and the temperature drops to 16°C, what is the new pressure in kPa?
4. How hot will you need to heat a gas to in order to keep pressure constant if the gas originally is at STP and 1.0 L and is moved to a tube 2.5 L?
5. If 25 gallons of helium at STP is placed into a balloon of 2 gallons and constant temperature, what is the new pressure?
6. Label these three graphs: (1) pressure as a function of temperature, (2) grey hair count as a function of age, and finally, (3) sleepiness as a function of blood sugar level.



7. Draw a graph showing inversely proportional and make up units that might fit correctly.
8. What is the difference between directly proportional and inversely proportional?
9. Why do we ONLY use Kelvin with the combined gas law formula?
10. What is Avogadro's Hypothesis and why is it important?
11. You have 5 moles of Neon at STP. What does it weigh in grams?
12. What volume is the 5 moles of Neon at STP in Liters?
13. there is no question 13, but you knew that
14. 12 g hydrogen at STP has a volume of how many L?
15. At what temperature and pressure to gases most resemble ideal gases?
16. Explain in 3 sentences why a balloon gets smaller outside in the cold but larger when you warm it up inside a warmer house. Use the kinetic theory of gases in your answer.