

WKS
Boyle's Law & Charles's Law

NAME _____
Period _____ **Date** _____

Boyle's Law	Charles's Law
$P_1V_1=P_2V_2$	$\frac{V_1}{T_1}=\frac{V_2}{T_2}$
T, moles constant	P, moles constant $K = ^\circ C + 273$



1. A sample of neon gas occupies a volume of 2.8 L at 1.8 atm. What will its volume be at 1.2 atm?
2. To what pressure would you have to compress 48.0 L of oxygen gas at 99.3 kPa in order to reduce its volume to 16.0 L?
3. A chemist collected 29.0 mL of sulfur dioxide gas at an atmospheric pressure of 0.989 atm. What was the volume when the pressure was reduced to 0.967 atm?
4. 2.20 L of hydrogen at 6.50 atm pressure is used to fill a balloon at a final pressure of 1.15 atm. What is its final volume?
5. A balloon full of air has a volume of 2.75 L at a temperature of 18°C. What is the balloon's volume at 45°C? [remember to ALWAYS convert °C to K!]
6. A sample of argon has a volume of 0.43 mL at 24°C. At what temperature in °C will it have a volume of 0.57 mL?

7. 4.40 L of a gas is collected at 50.0°C. What will be its volume upon cooling to 25.0°C?
8. 5.00 L of a gas is collected at 100 K and then allowed to expand to 20.0 L. What must the new temperature be?