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| Solving Gas problems with P, V, & T  CλeMis+ry: http://genest.weebly.com  Stop in for help every day at lunch and Tues, Weds., &Thurs after school!  After-hours question? Email me at home: [eagenest@madison.k12.wi.us](mailto:eagenest@madison.k12.wi.us) |  | Name\_\_\_\_\_\_\_\_\_  Period\_\_\_\_\_\_\_\_ |

For the following questions determine what gas law will be used, write a list, and show all necessary work for the calculation.

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| The story problem: | Make two lists of the givens | Write an appropriate equation.  Cross out anything that stays constant.  Circle the unknown you are solving for. | Rearrange to get the unknown by itself on one side of the equals sign. | Finally, substitutre in the values from your two lists. |
| A gas with a volume of 5.0 L at a pressure of 0.85 atm is allowed to expand until the pressure drops to 0.20 atm. What is the new volume? |  |  |  |  |
| The pressure in an automobile tire is 2.0 atm at 27°C. At the end of a trip, the pressure has risen to 2.3 atm. What is the temperature of the air in the tire? (Assume volume doesn’t change.) |  |  |  |  |
| A gas tank has a volume at atmospheric pressure of 2.00 x 106 m3 at +20.°C. The temperature falls to  -20. °C. What is the volume of the gas tank now? (Since the question doesn’t mention pressure you can assume it is constant.) |  |  |  |  |

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| A student collects 450. mL of HCl gas at a pressure of 100. kPa and a temperature of 17oC. What is the volume of HCl produced at STP? |  |  |  |  |
| A fixed amount of gas, maintained at a volume of 128 mL, exerts a pressure pf 120.0 kPa at 25°C. At what temperature will the gas become exactly 1.00 atmospheres? |  |  |  |  |
| Six liters of air at -40.0°C are warmed to 100.°C. What is the new volume if the pressure remains constant? |  |  |  |  |