HW - GAS LAWS II

NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. P1 = 3.04 atm V1 = 21.0 L 2) V1 = 355 cm3 T1 = 258 K

V2 = 35.0 L P2 = ??? V2 = ???? T2 = 302 K

3) P1 = 105 kPa T1 = 36oC 4) P1 = 855 Torr V1 = 1.65 L T1 = 25oC

P2 = 2.43 atm T2 = ???? P2 = 702 Torr V2 = ???? T2 = 235oC

1. If you have a 2.50 cm3 vial of sulfur dioxide gas exerting 1.00 atm on the walls of the vial at room temperature, what pressure will the gas exert if the vial is placed in boiling water? Assume no volume change.

1. If you have a 2.01 L balloon at STP, what will its volume be at 286 kPa of pressure and 78oC?

1. If you have a piston-jar system under constant pressure which reads a volume of 35.5 mL at room temperature, what must the temperature be brought to in order to get the volume to 30.0 mL?

1. If your pressure apparatus (constant V) shows 18.7 psi in boiling water, what will the pressure read at 15oC?

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# NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. If you are using your pressure cooker to make spinach (your favorite!!), and when you first put the lid on, the temperature inside is 25oC, and the pressure inside is the same as the air pressure that day: 754 Torr. If you heat up your water to 125oC, how much pressure is the steam exerting, assuming the volume of the pressure cooker does not change?

1. If you have a marshmallow which holds 10.2 cm3 of air at 22oC and 99.34 kPa of pressure, what temperature must you heat it to in your microwave to get the air to expand to 50.0 cm3 at a pressure of 788 Torr?

1. If you have a pressure temperature apparatus (constant V), and the pressure reads 15.6 psi (14.7 psi = 760 mmHg) at room temperature, at what temperature (in oC) would it show standard pressure?

1. If you have a balloon which occupied 429 mL of space at 29oC and under 725 mmHg of pressure, what pressure will cause it to occupy 1.03 L of space at 183oC?

1. If you have a piston-jar system which occupies 25.0 mL of space at a pressure of 31.25 inches of Hg and at room temperature, what will the volume be at standard pressure and room temperature?