Name: _____

Kinetic Molecular Theory & Gases

IB Homework Unit 4 - Topic 3

Use the Combined Gas Law equation in your reference tables (Table T) to answer these questions.

	Initial			Final		
	volume	***pressure***	***temperature***	***volume***	***pressure***	***temperature***
1	80.0 mL	96 kPa	27˚C		99.9 kPa	0.0˚C
2	36 mL	SP*	ST*		96.6 kPa	35.0˚C
3	2.0 L	95.3 kPa	-45˚C		SP	ST
4	4.5 L	1.035 atm	375 K		1.100 atm	350 K
5		0.980 atm	30.0˚C	185 mL	0.900 atm	28.0˚C
6	16.5 mL	107.3 kPa	26.5˚C	18.0 mL	104.4 kPa	
7	14.8 mL	1.123 atm	75.5˚C	16.5 mL		70.2˚C
8	5.322 L		100.0˚C	4.895 L	104.2 kPa	98.5˚C
9	1.00 L	SP	ST		SP	27.3 K
10	2.50 L	SP	ST		111.4 kPa	87˚C

*SP = Standard Pressure (101.3 kPa or 1.0 atm)

*ST = Standard Temperature (0˚C or 273 K)

1. _____ What is the pressure that must be exerted on 300 mL of a gas which has been collected at STP so that it may be confined to a volume of 190 mL? (Temperature is kept constant.)

2. _____ If 260 mL of O_2 gas is collected at 21˚C and 101.3 kPa, what volume would this gas occupy at STP?

3. _____ 65 liters of a gas at 52˚C is to be expanded to 72 liters. To what temperature must this gas be changed? (in degrees Celsius).

4. _____ A student collected 20 mL of a gas at 96 kPa. If the temperature remains constant, what volume will the gas occupy when the pressure is changed to 112 kPa?