

Name _____ period _____ date _____

Dalton's Law of Partial Pressure

1. A metal tank contains three gases: oxygen, helium, and nitrogen. If the partial pressures of the three gases in the tank are 35 atm of O_2 , 5 atm of N_2 , and 25 atm of He, what is the total pressure inside of the tank?
2. Blast furnaces give off many unpleasant and unhealthy gases. If the total air pressure is 0.99 atm, the partial pressure of carbon dioxide is 0.05 atm, and the partial pressure of hydrogen sulfide is 0.02 atm, what is the partial pressure of the remaining air in atmosphere?
3. If the air from problem 2 contains 22% oxygen, what is the partial pressure of oxygen near a blast furnace?
4. A mixture of neon and argon gases exerts a total pressure of 2.39 atm. The partial pressure of the neon alone is 1.84 atm, what is the partial pressure of the argon in **atm**?
5. A 450 ml sample of hydrogen is collected over water at 12 °C. The pressure of the hydrogen and water vapor mixture is 78.5 kPa. What is the partial pressure of the dry hydrogen gas? (Reminder: pressure readings should be in the same unit)
6. Oxygen is collected over water with a temperature of 27 °C. The total pressure of the gases is 0.551 atm. What is the partial pressure of the dry gas? (Reminder: pressure readings should be in the same unit)

Temperature, °C	Pressure, torr	Temperature, °C	Pressure, torr	Temperature, °C	Pressure, torr
-10	1.95	12	10.5	27	26.7
-5	3.0	13	11.2	28	28.3
-2	3.9	14	12.0	29	30.0
-1	4.2	15	12.8	30	31.8
0	4.6	16	13.6	35	42.2
1	4.9	17	14.5	40	55.3
2	5.3	18	15.5	50	92.5
3	5.7	19	16.5	60	149.4
4	6.1	20	17.5	70	233.7
5	6.5	21	18.7	80	355.1
6	7.0	22	19.8	90	525.8
7	7.5	23	21.1	95	633.9
8	8.0	24	22.4	99	733.2
9	8.6	25	23.8	100.0	760.0
10	9.2	26	25.2	101.0	787.6
11	9.8				