Mixed Gas Law Worksheet answers(modified 3/18/10)

Name: _____ (show your work) **period:** _____

Convert:

100 mmHg = __13.3___ kPa **300 mmHg = ___.395__ atm**

120 atm = ___91200_ mmHg **300 torr = ___39.99__ kPa**

25 kPa = __187.5__ mmHg **25 mmHg = __.033___ atm**

300°C = _573_ K **150K = _-123_°C** **5000°C = _5273__K**

300K = _27__ °C **-255oC = _18__ K** **3500K = _3227_°C**

200°C = _392_°F **95oF = __35_°C = _308_K** **45°F = _7.2_°C = _280.2_K**

1) A 70. liter sample of gas initially at 280°C is allowed to cool at constant pressure, what will the new volume be at 0°C?

P_1 = P_2 =

V_1 = V_2 = 34.6 L

T_1 = T_2 =

2) A 4.0 liter sample of gas initially at 25°C is allowed to cool at constant pressure, what will the new volume be at -5°C?

P_1 = P_2 =

V_1 = V_2 = 3.6 L

T_1 = T_2 =

3) A buoyancy vest (used in scuba diving) is filled to a volume of 2.3 liters at a pressure of 1 atmosphere (at the surface where the temperature is a balmy 300K), what will the volume of air be in the vest when the diver dives to a depth of about 90 feet where the temperature is 17°C and the pressure is 4 atmospheres?

P_1 = P_2 =

V_1 = V_2 = .56 L

T_1 = T_2 =