**Mini-quiz #24 Chemistry 1114 Friday 6 December 2013**

**6 pts**

**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A**

1) An ideal gas initially at 3 atm occupies 4 L at constant temperature and constant moles.

The volume is then adjusted to 1.2 L. What is the final pressure in the piston?

\_\_\_\_\_\_\_\_\_Pfinal(atm)

2) An ideal gas at constant P and constant moles is heated from 100 oC to 659.73oC.

Given that the initial volume, Vinitial = 2 L at 100oC, what is the final volume, Vfinal at 659.73oC?

[T(K) = 273.15 + T(oC)]

\_\_\_\_\_\_\_\_\_\_= Vfinal(L)

3) A helium balloon tied to a rock is thrown out of a plane. Initially, its temperature T1=150 K at a pressure P1= 0.2 atm. The balloon is then dragged earthward by the rock until it hits dirt at which point the final pressure, P2 =0.9 atm at a temperature T2 =300 K. The balloon now has a final volume V2 =0.4445 L. What was the initial volume, V1?

\_\_\_\_\_\_\_\_=V­1(L)

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**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B**

1) An ideal gas initially at 6 atm occupies 8 L at constant temperature and constant moles.

The volume is then adjusted to 2.4 L. What is the final pressure in the piston?

\_\_\_\_\_\_\_\_\_Pfinal(atm)

2) An ideal gas at constant P and constant moles is heated from 100 oC to 659.73oC.

Given that the initial volume, Vinitial = 4 L at 100oC, what is the final volume, Vfinal at 659.73oC?

[T(K) = 273.15 + T(oC)]

\_\_\_\_\_\_\_\_\_\_= Vfinal(L)

3) A helium balloon tied to a rock is thrown out of a plane. Initially, its temperature T1=150 K at a pressure P1= 0.1 atm. The balloon is then dragged earthward by the rock until it hits dirt at which point the final pressure, P2 =0.9 atm at a temperature T2 =300 K. The balloon now has a final volume V2 =0.4445 L. What was the initial volume, V1?

\_\_\_\_\_\_\_\_=V­1(L)