Manometer and Pressure Practice #2

Name:_____

Determine the pressure of each gas in an open or closed-end manometer. Be sure to make the necessary pressure unit conversions first if needed. *(Hint: You may need to also illustrate each manometer scenario)*
Remember: 1 atm = 101.325 kPa = 760 mmHg = 760 Torr

1. The mercury level in an open-end manometer is 12.0 mm higher on the side open to the gas chamber. What is the pressure of the gas, ***in kPa***, if the atmospheric pressure is 100.8 kPa?

2. The mercury level is 57.0 mm higher in the arm of the tube connected to the chamber of hydrogen gas. If the atmospheric pressure is 0.985 atm, what is the pressure of hydrogen gas, in ***atmospheres (atm)***?

3. A closed-end manometer is filled with mercury and attached to a chamber of helium. The difference in height of mercury between the two arms is 521 mm. What is the pressure of the helium, ***in Torr***?

4. A chamber of argon gas has a mercury level 83.0 mm higher in the atmospheric arm. If the atmospheric pressure is 76.9 kPa, what is the pressure of the argon gas, ***in kPa***?

5. A closed-end manometer is attached to a chamber of nitrogen gas. The difference in height of mercury in the two arms is 435 mm. What is the pressure of the nitrogen gas in **kPa**, **atm**, and **Torr**?

_____ kPa   _____ atm   _____ Torr

6. The mercury level in an open-end manometer is 54.6 cm higher than in the atmospheric arm when the atmospheric pressure is 88.9 kPa. What is the pressure of the gas, **in mmHg**?

7. A manometer is connected to ammonia gas. If the mercury rises 23.4 mm on the ammonia side of the manometer, what is the **Torr** pressure of the ammonia gas if the atmospheric pressure is 716 Torr?

8. A closed-end manometer is attached to a chamber of oxygen gas. The difference in height of mercury in the two arms is 37.0 mm. What is the **kPa** pressure of the oxygen gas?

9. The mercury level of an open-end manometer is 12.01 cm higher in the atmospheric arm than it is to chlorine gas. The atmospheric pressure is 99.8 kPa. What is the pressure of the chlorine gas, **in mmHg**?