## Complete each of the following. Show your work and circle your final answer on all problems.

1. What volume does 2.50 moles of carbon monoxide occupy at 50.5 kPa pressure and $20.0^{\circ} \mathrm{C}$ ?
2. At $\mathbf{8 0 0} \mathrm{mm} \mathrm{Hg}$, a gas has a volume of 380 L . What is its volume at standard pressure?
3. A quantity of gas has a volume of 121 L when confined under a pressure of 2.50 atm at a temperature $\mathbf{~ o f ~} 20.0^{\circ} \mathrm{C}$. At what pressure will its volume be 30.0 L at $25.0^{\circ} \mathrm{C}$ ?

Name:

Date:

## Complete each of the following. Show your work and circle your final answer on all problems.

4. At constant pressure, the volume of a gas is increased from 150.0 L to 300.0 L by heating it. If the original temperature of the gas was $20.0^{\circ} \mathrm{C}$, what will its final temperature (in Kelvins) be?
5. A quantity of gas is collected over water at $15^{\circ} \mathrm{C}$. The manometer indicated a pressure of 24.0 kPa . What would be the pressure of the dry gas?
6. How many liters of pure oxygen at STP is consumed by a human being in $\mathbf{2 4}$ hours if the human body requires daily energy that comes from metabolizing 816 grams of sucrose $\left(\mathrm{C}_{12} \mathrm{H}_{22} \mathrm{O}_{11}\right)$ ?

$$
\mathrm{C}_{12} \mathrm{H}_{22} \mathrm{O}_{11}(\mathrm{~s})+12 \mathrm{O}_{2}(\mathrm{~g}) \rightarrow 12 \mathrm{CO}_{2}(\mathrm{~g})+11 \mathrm{H}_{2} \mathrm{O}(\mathrm{l})
$$

