Stoichiometry and the Ideal Gas Law

1. At what temperature will 0.0100 mole of argon gas have a volume of 275 mL at 100.0 kPa?

GIVEN	GAS LAW	WORK
	FORMULA	
ANSWER:		

2. What is the volume occupied by 36.0 g of water vapor at 125°C and 102 kPa?

GIVEN	GAS LAW	WORK
	FORMULA	
ANSWER:		

3. What mass of carbon dioxide will occupy 5.5 L at 5°C and 0.74 atm?

GIVEN	GAS LAW	WORK
	FORMULA	
ANSWER:		

4. How many grams of $AlCl_3$ must decompose in order to produce 3.10 L of Cl_2 at 50.0°C and 98.4 kPa?

$$2AlCl_3 \quad \rightarrow \quad 2Al \quad + \quad 3Cl_2$$
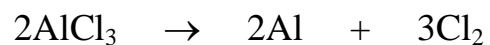
ANSWER:

5. What volume of nitrogen can be produced by the decomposition of 50.0 g of NH_4NO_2 at 25°C and 1.20 atm?

$$NH_4NO_2 \quad \rightarrow \quad N_2 \quad + \quad 2H_2O$$

ANSWER: