Name: _____   Period: _____

Chemistry 11
Density and the Mole Worksheet

Directions: Answer in the space provided. Please show all your work and place the final answer in the line on the right. Watch your sig figs☺

1. What volume is occupied by 4.25 mols of chloroform, $CHCl_3$? (Density = 1.498 g/ml)

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2. How many moles of benzene (C_6H_6) are contained in 627.9 mL of benzene?
    (Density = 0.879 g/ml)

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3. A 2.25 L bulb contains 3.20 g of a diatomic gas at STP. Calculate the molar mass of the gas and use the molar mass to identify the gas.

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4. How many carbon atoms in 250.0 ml of ethyl acetate ($CH_3OOCH_2CH_3$)?
    (Density = 0.894 g/ml)

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5. Acetone (CH_3COCH_3) has a density of 0.786 g/ml. How many atoms of hydrogen in 325.0 ml of acetone?

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6. The density of Hexane (C_6H_{14}) is 0.655 g/ml. How many molecules of hexane are there in 3.25 L of C_6H_{14}?

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7. What volume of Ethanol (CH_3CH_2OH) contains 1.29×10^{25} hydrogen atoms? Density of CH_3CH_2OH = 0.789 g/ml)

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8. Isopropanol, $CH_3CHOHCH_3$, is a liquid having a density of 0.785 g/ml. What volume is occupied by 9.25×10^{26} molecules of $CH_3CHOHCH_3$?

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