Chemistry 11

Mole Conversion Practice

Avogadro's Number, Molar Mass, Molar Volume

Name:
Date:
Block:

1. How many atoms are in 2 molecules of $Hg(IO_3)_2$?

2. What volume at STP is occupied by 1.45×10^{30} molecules of COF_2 gas?

3. How many molecules are there in 64.0 g of FeS?

4. How many moles are in 25.0 mL of HCN at STP?

5. What volume at STP is occupied by 43.5 g of ClF_3?

6. How many moles are in 2.75×10^{23} atoms of Fe?

7. How many molecules are there in 125 mL of NOCl at STP?

1. 18 atoms 2. 5.39×10^{7} L 3. 4.38×10^{23} molecules 4. 1.12×10^{-3} mol 5. 10.5 L 6. 0.457 moles 7. 3.36×10^{21} molecules

Chemistry 11

Molarity Practice

Name:
Date:
Block:

1. **How many grams of magnesium cyanide** are needed to make 275 mL of a 0.075 M solution?

2. What is the molarity of a solution made when 52 grams of potassium sulfate is added to 4100 mL of water?

3. ***Find the volume*** of a 0.75 M solution if it contains 39 grams of potassium hydroxide.

4. **How many grams** of hydrochloric acid are present in 3.0 L of a 0.750 M solution?

5. **Explain how you would make** 675 mL of a 0.400 M barium iodide solution.

6. 200.0 g of NaCl are dissolved in 100. mL of water. Calculate the molarity of the solution.

7. How many grams of AgCl are required to prepare 150.0 mL of 0.200 M solution?

8. What is the concentration that results when 184.7 g of potassium chromate is dissolved in enough water to make a 500.0 mL solution?

1. 1.6 g 2. 0.073 M 3. 0.93 L 4. 82 g 5. Dissolve 106 g BaI_2 in 675mL water 6. 34.2 M 7. 4.30 g 8. 1.902 M