Mole Conversions 2

Name: _____

Perform the following mole conversions (show set up with unit factors):

1) 24.6 g of magnesium chloride ----> moles

2) 0.581 moles cobalt (II) nitrate -----> grams

3) 9.80×10^{22} molecules KNO_3 ---------> moles

4) 5.94 moles OCl_2 -------> liters (at STP)

5) 8.20 liters (at STP) N_2O -------> grams

6) 45.0 moles calcium fluoride ----> molecules

7) 150. liters ClO_2 (at STP) -------> molecules

8) 5.36×10^{23} atoms Cr ---------> grams

9) You are given a sample that contains 92.6 grams of carbon tetrachloride (CCl_4). Determine the number of moles, liters (at STP) and molecules of carbon tetrachloride in the sample.

Answers:

1) 0.258 mol 3) 0.163 mol 5) 16.1 grams 7) 4.03×10^{24} molecules

9) 0.601 moles, 13.5 L and 3.62×10^{23} molecules

Mole Conversions 2

Name: _____

Perform the following mole conversions (show set up with unit factors):

1) 8.241 moles Cl_2 ----> liters (at STP)

2) 94.2 grams of sodium phosphate ----> moles

3) 8.95×10^{24} molecules $GaCl_3$ ---------> moles

4) 0.945 moles OCl_2 -------> grams

5) 18.7 liters (at STP) CO -------> grams

6) 0.0185 moles lithium nitride ----> molecules

7) 350. liters C_3H_8 (at STP) -------> molecules

8) 6.35×10^{21} atoms Pb ---------> grams

9) You are given a sample that contains 29.6 grams of sulfur trioxide (SO_3). Determine the number of moles, liters (at STP) and molecules of carbon tetrachloride in the sample.

Answers:

1) 185 L 3) 14.9 mol 5) 23.4 grams 7) 9.40×10^{24} molecules

9) 0.370 moles, 8.27 L and 2.22×10^{23} molecules