Mole Worksheet (Dimensional Analysis) #2

I. What is the mass (in grams) for each of the following compounds or elements?

1. 7.24 moles of silver phosphate

2. 2.88 moles of diphosphorous pentoxide

3. 0.0009273 moles of zinc bicarbonate

4. 154.8 moles of silicon tetraiodide

5. 88.624 moles of silver

II. Answer the following questions.

1. How many atoms are in 6.28 moles of aluminum?

2. How many atoms are in 90.43 moles of copper?

3. How many atoms in 7.64 moles of barium?

4. How many molecules in 3.72 moles of sulfur dioxide?

5. 78.54 g of nitrogen dioxide contain how many molecules?

6. How many moles of water are represented by $8.33 \times 10^{18}$ molecules of water?

7. 76.4 g of water contain how many molecules?

8. 76.4 moles of oxygen difluoride contain how many molecules?

9. How many grams does $8.92 \times 10^{24}$ atoms of tin weigh?

10. What is the mass in grams of $4.28 \times 10^{20}$ molecules of bromine trifluoride?
Solutions

I. II.
1) 3,030 g Ag₃PO₄
2) 409 g P₂O₅
3) 0.1738 g Zn(HCO₃)₂
4) 82,930 g SiI₄
5) 9,563 g Ag
6) 1.38 x 10⁻⁵ moles H₂O
7) 2.56 x 10²⁴ molecules H₂O
8) 4.60 x 10²⁴ molecules OF₂
9) 1.76 x 10³ g Sn
10) 0.0973 g BrF₃