



1. Directions: Name or formulate each compound/molecule. Then calculate the molar mass for the following. All answers should have one number past the decimal.

a. CO₂ _____

C: 1 x 12.0 = 12.0

O: 2 x 16.0 = 32.0

 44.0

b. SO₃ _____

S: x =

O: x =

c. NaOH _____

d. P₂O₅ _____

e. Al₂(SO₄)₃ _____

f. Ba(NO₃)₂ _____

g. nitrogen dioxide _____

h. barium fluoride _____

i. strontium cyanide _____

j. aluminum sulfite _____

How many atoms are in the compounds/molecules above? *Count 'em up!*

a. b. c. d. e. f. g. h. i. j.

Directions: Show all work for full credit! Dimensional analysis set up must be shown for all problems. Label all units, answers must show the correct number of significant figures and proper scientific notation.



1. How many moles of magnesium are in 3.01×10^{22} atoms of magnesium?

Answer: _____

2. How many molecules are in 4.00 mol of glucose, $C_6H_{12}O_6$?

Answer: _____

3. How many atoms are in 7.99 moles of lithium?

Answer: _____

4. How many moles are contained in 4.65×10^{24} molecules in NO_2 ?

Answer: _____

5. How many atoms are in 0.350 mol of $C_6H_{12}O_6$?

Answer: _____

6. Challenge: How many oxygen atoms are in 0.25 mol $Ca(NO_3)_2$? *Look at your lecture notes for set-up!*

Answer: _____