

501k

Name Key  
(print name)

Name \_\_\_\_\_  
(sign name) (I can't read some of your handwriting.)

Please show all work for full credit. If you show work you may also get partial credit.

1. From the list of molecules shown below circle all ionic compounds (5 pts)

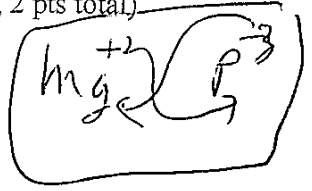
SO<sub>2</sub> (KCl) SF<sub>6</sub> PBr<sub>3</sub> (CaSO<sub>4</sub>)

metal + nonmetal  
(far in periodic table)

2. Write the correct formula for the following ionic compound. If you show work you may earn some partial credit.

Mg and P charge on Mg +2 charge on P -3 (1 pt each, 2 pts total)

Mg<sub>3</sub>P<sub>2</sub>  $(+2)Mg + (-3)P = 0$



correct formula is \_\_\_\_\_ (2 pts)

3a. Is the following formula an [ (empirical formula) or (molecular formula) ] (circle one) (3 pts)?

C<sub>4</sub>H<sub>10</sub> ÷ 2 = C<sub>2</sub>H<sub>5</sub> has common denominator  
empirical should have lowest ratio of atoms

b. Given the following structure, give the name of the polyatomic ion:

CH<sub>3</sub>COO<sup>-</sup> acetate (also C<sub>2</sub>H<sub>3</sub>O<sub>2</sub><sup>-</sup>) (2 pts)

c. Given the name of the polyatomic ion, give the structure (2 pts)

phosphate PO<sub>4</sub><sup>-3</sup>

4. Name the following molecule: Mg(NO<sub>3</sub>)<sub>2</sub> (4 pts)

binary ionic - no prefix  
magnesium nitrate

element name cation

polyatomic ion name

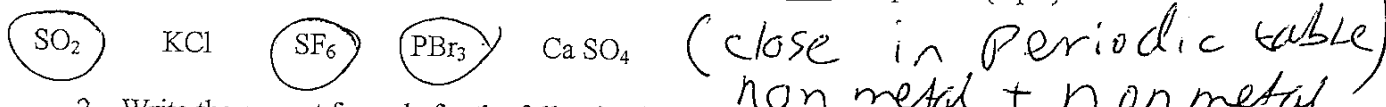
Extra Credit: What is its molecular weight (formula mass) for the compound. Show work. (2 pts)

Na<sub>2</sub>SO<sub>4</sub>  $2(23.0) + 32.07 + 4(16.0) = 142.07g$   
Na S O mol

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Please show all work for full credit. If you show work you may also get partial credit.

1. From the list of molecules shown below circle all covalent compounds (5 pts)



2. Write the correct formula for the following ionic compound. If you show work you may earn some partial credit.



Ca and NO<sub>3</sub><sup>-</sup> charge on Ca +2 charge on NO<sub>3</sub> -1 (1 pt each, 2 pts)

correct formula is Ca(NO<sub>3</sub>)<sub>2</sub> (2 pts)

- 3a Is the following formula an [(empirical formula) or (molecular formula)] (circle one)? (3 pts)

SF<sub>6</sub> no least common denominator

- b. Given the following structure, give the name of the polyatomic ion: (2 pts)

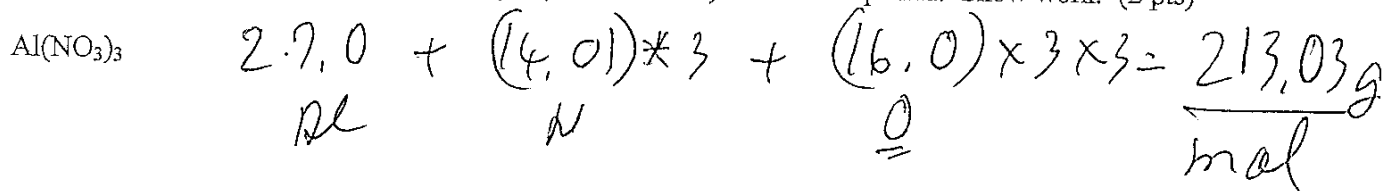
NO<sub>3</sub><sup>-</sup> nitrate

- c. Given the name of the polyatomic ion, give the structure (2 pts)

Sulfate SO<sub>4</sub><sup>-2</sup>

- 4 Name the following molecule: S<sub>2</sub>F<sub>4</sub> (4 pts) covalent - # prefix  
# name + (# name - ending + ide) (fluorine + ide)  
disulfur tetrafluoride

Extra Credit: What is its molecular weight (formula mass) for the compound. Show work. (2 pts)





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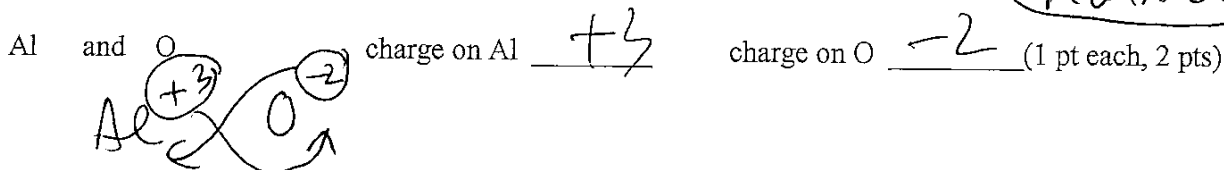
Please show all work for full credit. If you show work you may also get partial credit.

1. From the list of chemical formulas shown below circle all covalent compounds. (5 pts)



*close together in periodic table - non metal + non metal*

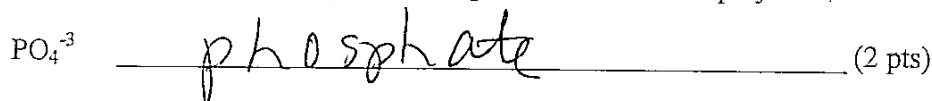
2. Write the correct formula for the ionic compound made up of the two parts given below. If you show work you may earn some partial credit.



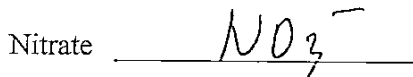
correct formula for the ionic compound is Al<sub>2</sub>O<sub>3</sub> (2 pts)

3a. the number prefix for the number 8 is octa (3 pts)

b. Given the following structure, give the name of the polyatomic ion:



c. Given the name of the polyatomic ion, give the structure (2 pts)



*# prefix same as binary ionic*

4. Name the following molecule: P<sub>2</sub>S<sub>5</sub> (4 pts)

di phosphorus - penta sulfide - covalent

di phosphorus pentasulfide

# element name # element name - ending ide

Extra-Credit: What is its molecular weight (formula mass) for the compound. Show work. (2 pts)

Mg<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>  $(24.31) \times 3 + (30.97) \times 2 + (16.0) \times (4) \times (2)$   
 mg P O  
 = 262.87 g/mol

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Please show all work for full credit. If you show work you may also get partial credit.

1. From the list of molecules shown below circle all ionic compounds (5 pts)

SO<sub>2</sub>      KCl      SF<sub>6</sub>      PBr<sub>3</sub>      CaSO<sub>4</sub>

2. Write the correct formula for the following ionic compound. If you show work you may earn some partial credit.

Mg and P      charge on Mg \_\_\_\_\_      charge on P \_\_\_\_\_ (1 pt each, 2 pts total)

correct formula is \_\_\_\_\_ (2 pts)

- 3a. Is the following formula an [ (empirical formula) or (molecular formula)] (circle one) (3 pts) ?

C<sub>4</sub>H<sub>10</sub>

- b. Given the following structure, give the name of the polyatomic ion:

CH<sub>3</sub>COO<sup>-</sup> \_\_\_\_\_ (2 pts)

- c. Given the name of the polyatomic ion, give the structure (2 pts)

phosphate \_\_\_\_\_

4. Name the following molecule: Mg(NO<sub>3</sub>)<sub>2</sub> (4 pts)

Extra Credit: What is its molecular weight (formula mass) for the compound. Show work. (2 pts)

Na<sub>2</sub>SO<sub>4</sub>

Name \_\_\_\_\_ Name \_\_\_\_\_  
(print name) (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. If you show work you may also get partial credit.

1. From the list of molecules shown below circle all covalent compounds (5 pts)

SO<sub>2</sub>    KCl    SF<sub>6</sub>    PBr<sub>3</sub>    Ca SO<sub>4</sub>

2. Write the correct formula for the following ionic compound. If you show work you may earn some partial credit.

Ca and NO<sub>3</sub><sup>-</sup> charge on Ca \_\_\_\_\_ charge on NO<sub>3</sub> \_\_\_\_\_ (1 pt each, 2 pts)

correct formula is \_\_\_\_\_ (2 pts)

- 3a Is the following formula an [ (empirical formula) or (molecular formula)] (circle one) ? (3 pts)

SF<sub>6</sub>

- b. Given the following structure, give the name of the polyatomic ion: (2 pts)

NO<sub>3</sub><sup>-</sup> \_\_\_\_\_

- c. Given the name of the polyatomic ion, give the structure (2 pts)

Sulfate \_\_\_\_\_

- 4 Name the following molecule: S<sub>2</sub>F<sub>4</sub> (4 pts)

Extra Credit: What is its molecular weight (formula mass) for the compound. Show work. (2 pts)

Al(NO<sub>3</sub>)<sub>3</sub>

Name \_\_\_\_\_ Name \_\_\_\_\_  
(print name) (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. If you show work you may also get partial credit.

1. From the list of molecules shown below circle all ionic compounds (5 pts)

NO<sub>2</sub> Mg(NO<sub>3</sub>)<sub>2</sub> NCl<sub>3</sub> BaO SeBr<sub>2</sub>

2. Write the correct formula for the following ionic compound made up of the two parts given below.  
If you show work you may earn some partial credit.

Na and SO<sub>4</sub><sup>-2</sup> charge on Na \_\_\_\_\_ charge on SO<sub>4</sub> \_\_\_\_\_ (1 pt each, 2 pts)

correct formula is \_\_\_\_\_ (2 pts)

3a. the number prefix for the number 5 is \_\_\_\_\_ (3 pts)

b. Given the following structure, give the name of the polyatomic ion (2 pts)

NH<sub>4</sub><sup>+</sup> \_\_\_\_\_

c. Given the name of the polyatomic ion, give the structure (2 pts)

Acetate \_\_\_\_\_

4. Name the following molecule: Na<sub>2</sub>O (4 pts)

Extra Credit: What is its molecular weight (formula mass) for the compound. Show work. (2 pts)

(NH<sub>4</sub>)<sub>2</sub>O

Name \_\_\_\_\_ Name \_\_\_\_\_  
(print name) (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. If you show work you may also get partial credit.

1. From the list of chemical formulas shown below circle all covalent compounds (5 pts)

$\text{NO}_2$      $\text{Mg}(\text{NO}_3)_2$      $\text{NCl}_3$      $\text{BaO}$      $\text{SeBr}_2$

2. Write the correct formula for the ionic compound made up of the two parts given below. If you show work you may earn some partial credit.

Al and O charge on Al \_\_\_\_\_ charge on O \_\_\_\_\_ (1 pt each, 2 pts)

correct formula for the ionic compound is \_\_\_\_\_ (2 pts)

3a. the number prefix for the number 8 is \_\_\_\_\_ (3 pts)

b. Given the following structure, give the name of the polyatomic ion:

$\text{PO}_4^{3-}$  \_\_\_\_\_ (2 pts)

c. Given the name of the polyatomic ion, give the structure (2 pts)

Nitrate \_\_\_\_\_

4. Name the following molecule:  $\text{P}_2\text{S}_5$  (4 pts)

Extra Credit: What is its molecular weight (formula mass) for the compound. Show work. (2 pts)

$\text{Mg}_3(\text{PO}_4)_2$