

Key

Nomenclature and Formula Writing Review

For each of the following questions, determine whether the compound is ionic, covalent, or acid and name it appropriately.

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|-----|-------------------------------|-------|----------|------|------------------------|
| 1) | Na_2CO_3 | ionic | covalent | acid | sodium carbonate |
| 2) | P_2O_5 | ionic | covalent | acid | diphosphorus pentoxide |
| 3) | NH_3 | ionic | covalent | acid | nitrogen trihydride |
| 4) | H_2CrO_4 (aq) | ionic | covalent | acid | chromic acid |
| 5) | FeSO_4 | ionic | covalent | acid | iron (II) sulfate |
| 6) | SiO_2 | ionic | covalent | acid | silicon dioxide |
| 7) | H_2Te (aq) | ionic | covalent | acid | hydrotelluric acid |
| 8) | BaCl_2 | ionic | covalent | acid | barium chloride |
| 9) | CoBr_2 | ionic | covalent | acid | cobalt (II) bromide |
| 10) | B_2H_4 | ionic | covalent | acid | dibromine tetrahydride |
| 11) | CO | ionic | covalent | acid | carbon monoxide |
| 12) | $\text{Fe}_2(\text{SO}_4)_3$ | ionic | covalent | acid | iron (III) sulfate |
| 13) | BBr_3 | ionic | covalent | acid | boron tribromide |
| 14) | CaSO_3 | ionic | covalent | acid | calcium sulfite |

Write the IUPAC name for each of the following chemical formulas.

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|-----|------------------------------|-------------------------|
| 15) | H_3PO_4 (aq) | phosphoric acid |
| 16) | $\text{Cr}(\text{CO}_3)_3$ | chromium (II) carbonate |
| 17) | Ag_3P | silver phosphide |
| 18) | IO_2 | iodine dioxide |
| 19) | VO_2 | vanadium (IV) oxide |
| 20) | PbS | lead (II) sulfide |
| 21) | HBr (aq) | hydrobromic acid |
| 22) | N_2O_3 | dinitrogen trioxide |
| 23) | HClO_4 (aq) | perchloric acid |
| 24) | LiNO_2 | lithium nitrite |
| 25) | $\text{Mg}(\text{CN})_2$ | magnesium cyanide |

For each of the following questions, determine whether the compound is ionic, covalent, or acid and write the appropriate chemical formula on the line provided.

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|-----|--|-----------------------|-------------|---------------------------------|
| 26) | dinitrogen trioxide | ionic <u>covalent</u> | acid | <u>N_2O_3</u> |
| 27) | iron (III) sulfide
$Fe^{+3} S^{-2}$ | <u>ionic</u> covalent | acid | <u>Fe_2S_3</u> |
| 28) | nickel (II) iodide
$Ni^{+2} I^{-1}$ | <u>ionic</u> covalent | acid | <u>NiI_2</u> |
| 29) | lithium acetate
$Li^{+1} C_2H_3O_2^{-}$ | <u>ionic</u> covalent | acid | <u>$LiC_2H_3O_2$</u> |
| 30) | phosphorus trifluoride | ionic <u>covalent</u> | acid | <u>PF_3</u> |
| 31) | hydroselenic acid
$H^+ Se^{-2}$ | ionic covalent | <u>acid</u> | <u>H_2Se</u> |
| 32) | vanadium (V) oxide
$V^{+5} O^{-2}$ | <u>ionic</u> covalent | acid | <u>V_2O_5</u> |
| 33) | aluminum hydroxide
$Al^{+3} (OH)^{-}$ | <u>ionic</u> covalent | acid | <u>$Al(OH)_3$</u> |
| 34) | zinc sulfide
$Zn^{+2} S^{-2}$ | <u>ionic</u> covalent | acid | <u>ZnS</u> |
| 35) | silicon tetrafluoride | ionic <u>covalent</u> | acid | <u>SiF_4</u> |
| 36) | phosphoric acid
PO_4^{3-} phosphate | ionic covalent | <u>acid</u> | <u>H_3PO_4</u> |
| 37) | silver phosphate
$Ag^{+1} PO_4^{3-}$ | <u>ionic</u> covalent | acid | <u>Ag_3PO_4</u> |
| 38) | tetraphosphorus triselenide | ionic <u>covalent</u> | acid | <u>P_4Se_3</u> |
| 39) | potassium acetate
$K^+ C_2H_3O_2^{-}$ | <u>ionic</u> covalent | acid | <u>$KC_2H_3O_2$</u> |
| 40) | nitric acid
ate
$H^+ NO_3^{-}$ | ionic covalent | <u>acid</u> | <u>HNO_3</u> |

Write the appropriate chemical formula for each of the following.

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|-----|---|--------------------------------|-----|---|---------------------------------|
| 41) | iron (II) phosphide
$Fe^{+2} P^{-3}$ | <u>Fe_3P_2</u> | 46) | carbon <u>monoxide</u>
1 | <u>CO</u> |
| 42) | dissilicon hexabromide
2 6 | <u>Si_2Br_6</u> | 47) | tetrasulfur dinitride
4 2 | <u>S_4N_2</u> |
| 43) | titanium (IV) nitrate
$Ti^{+4} NO_3^{-}$ | <u>$Ti(NO_3)_4$</u> | 48) | hydrocyanic acid
cyanide
$H^+ CN^{-}$ | <u>HCN</u> |
| 44) | chloric acid
chlorate
$H^+ ClO_3^{-}$ | <u>$HClO_3$</u> | 49) | oxalic acid
oxalate
$H^+ C_2O_4^{2-}$ | <u>$H_2C_2O_4$</u> |
| 45) | copper (I) phosphate
$Cu^{+1} PO_4^{3-}$ | <u>Cu_3PO_4</u> | 50) | magnesium chlorate
$Mg^{+2} ClO_3^{-}$ | <u>$Mg(ClO_3)_2$</u> |