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**Include file name:** Chemistry\_Worksheet\_0053

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1.

Consider the following electron-dot formulas for the elements X and Y.



What are the group numbers of X and Y?

A. 16 & 13
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B. 5 & 4
----------

C. 15 & 14
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2.

Consider the following electron-dot formulas for the elements X and Y.



b. Will a compound of X and Y be ionic or covalent?

A. covalent
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B. ionic
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Score: 3/3

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3.

Consider the following electron-dot formulas for the elements X and Y.



What ions would be formed by X and Y?

A. +3 & -4
B. -5& +4
C. -3 & + 4
D. +5 & -4

Score: 3/3

4.

Consider the following electron-dot formulas for the elements X and Y.



What would be the formula of a compound between X and Y?

A. $X_5Y_4$
B. $X_3Y_4$
C. $X_4Y_5$
D. $X_4Y_3$

Score: 3/3

5.

Consider the following electron-dot formulas for the elements X and Y.



What would be the formula of a compound of X and Cl?

A. $X_3Cl$
B. $X_2Cl_3$
C. $XCl_3$
D. $X_3Cl_2$

Score: 3/3

6.

Complete the following table for atoms or ions:

Atom or Ion	Number of Protons	Number of Electrons	Electrons Lost/Gained
Mg <sup>+</sup>	1.-----	2.-----	3.----- e 4.-----
5.-----	13	11	6.----- e 7.-----
8.-----	8	9.-----	2 e gained
10.-----	11.-----	28	3 e lost

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.

7.

Name the following compound:  $\text{Li}_2\text{O}$

- |                       |
|-----------------------|
| A. lithium (II) oxide |
| B. lithium oxide      |
| C. dilithium oxide    |

Score: 3/3

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**8.**

Name the following compound:  $\text{CF}_2$

- |                         |
|-------------------------|
| A. carbon (II) fluoride |
| B. carbon tetrafluoride |
| C. carbon fluoride      |

**9.**

Name the following compound:  $\text{MgF}_2$

- |                         |
|-------------------------|
| A. magnesium difluoride |
| B. manganese fluoride   |
| C. magnesium fluoride   |

Score: 3/3

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**10.**

Name the following compound:  $\text{CaCl}_2$

- |                          |
|--------------------------|
| A. calcium (II) chloride |
| B. calcium dichloride    |
| C. calcium chloride      |

Score: 3/3

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**11.**

Name the following compound:  $\text{N}_2\text{O}$

- |                        |
|------------------------|
| A. dinitrogen oxide    |
| B. nitrogen dioxide    |
| C. nitrogen (II) oxide |

Score: 3/3

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**12.**

Name the following compound: CO

A. carbon oxide
B. carbon (II) oxide
C. carbon monoxide

Score: 3/3

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**13.**

name the following compound:  $K_3PO_4$

A. potassium (III) phosphate
B. tripotassium phosphate
C. potassium phosphate

Score: 3/3

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**14.**

Name the following compound:  $Ba(NO_3)_2$

A. barium (II) nitrate
B. barium nitride
C. barium nitrate

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**15.**

Classify each of the following as ionic or covalent

$Al_2(CO_3)_3$
$SF_6$
$N_2O$
$Br_2$
$Mg_3N_2$
$SO_2$
$CrPO_4$

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**16.**

Select the more polar bond in each of the following pairs:

(A) C-N or (B) C-O
(A) N-F or (B) N-Br
(A) Si-S or (B) Si-Cl
(A) F-Cl or (B) F-Br
(A) P-O or (B) P-S

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**17.**

Classify each of the following bonds as nonpolar covalent, polar covalent, or ionic

N-O
Cl-Cl
Na-Cl
H-H
N-F

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**18.**

Predict the shape and polarity of each of the following molecules. Assume that all bonds are polar

a central atom with two identical bonded atoms and one lone pair
a central atom with three identical bonded atoms and one lone pair
a central atom with four identical bonded atoms and no lone pairs

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**19.**

Predict the polarity of each of the following molecules:

SCl <sub>2</sub>
PCl <sub>3</sub>
GeH <sub>4</sub>
CF <sub>4</sub>
H <sub>2</sub> O