

For each of the following indicate, by circling the correct answer, how the atom will form an ion.

- non metal* 1. Arsenic GAIN ELECTRONS LOSE ELECTRONS
- metal* - 2. Zinc GAIN ELECTRONS LOSE ELECTRONS

Please indicate **how many** electrons would be gained/lost in the following equations.

3. $\text{Cr} \rightarrow \text{Cr}^{2+} + \underline{2}$ electrons

4. $\text{Br} + \underline{1}$ electrons $\rightarrow \text{Br}^{1-}$

Please fill in the correct ion symbol in the following equations.

5. $\text{Ag} \rightarrow \underline{\text{Ag}^{1+}} + 1 \text{ electron}$

6. $\text{P} + 3 \text{ electrons} \rightarrow \underline{\text{P}^{3-}}$

7. Write the chemical formula for a compound made from Lithium and Chlorine ions.



8. Write the chemical formula for a compound made from Zn^{2+} and P^{3-} .



For the following describe the number of protons, neutrons and electrons present.

	Number of Protons	Number of Neutrons	Number of Electrons
$\begin{smallmatrix} 27 \\ 13 \end{smallmatrix} \text{Al}^{+3}$	9. <u>13</u>	10. <u>14</u>	11. <u>10</u>
$\begin{smallmatrix} 32 \\ 16 \end{smallmatrix} \text{S}^{-2}$	12. <u>16</u>	13. <u>16</u>	14. <u>18</u>

15. Name an element that is a liquid at room temperature.

Bromine, Mercury

16. Name an element that is a monatomic gas at room temperature.

Helium, Neon, Argon, Krypton, Xenon, or Radon

17. Give an example of a diatomic molecule.

Hydrogen H_2 , Nitrogen N_2 , Oxygen O_2 , Fluorine F_2 , Chlorine Cl_2

18. Define allotrope.

Bromine Br , Iodine I_2

a different physical form of the same element ex: Carbon

19. Why does an ionic compound conduct electricity when it is melted, but not when it is solid? (2 points)

Ions have to be able to move to conduct electricity and they cant move enough when solid.

diamond / graphite
"Bucky Ball"