

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

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|------------|----------------|----------------|
| 1. Arsenic | GAIN ELECTRONS | LOSE ELECTRONS |
| 2. Zinc | GAIN ELECTRONS | LOSE ELECTRONS |

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

3. $\text{Cr} \rightarrow \text{Cr}^{2+} + \text{_____}$ electrons
4. $\text{Br} + \text{_____}$ electrons $\rightarrow \text{Br}^{1-}$

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

5. $\text{Ag} \rightarrow \text{_____} + 1 \text{ electron}$
6. $\text{P} + 3 \text{ electrons} \rightarrow \text{_____}$
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
$\begin{matrix} 27 \\ 13 \end{matrix} \text{Al}^{+3}$	9.	10.	11.
$\begin{matrix} 32 \\ 16 \end{matrix} \text{S}^{-2}$	12.	13.	14.

15. Name an element that is a liquid at room temperature.
16. Name an element that is a monatomic gas at room temperature.
17. Give an example of a diatomic molecule.
18. Define allotrope.
19. Why does an ionic compound conduct electricity when it is melted, but not when it is solid? (2 points)