

CHM 130: Chapter 6 Blackboard Homework KEY

1. Give the **element symbol** for the **halogen** in the **third period**. **Cl**
2. Give the **element symbol** for the **noble gas** in the **second period**. **Ne**
3. Give the **element symbol** for the **alkali metal** in the **fourth period**. **K**
4. Give the **element symbol** for the **alkaline earth metal** in the **third period**. **Mg**
5. Give the **element symbol** for the **halogen** with the **largest atomic radius**. **At**
6. Give the **element symbol** for the **noble gas** with the **greatest ionization energy**. **He**
7. Give the **element symbol** for the **alkali metal** with the **largest atomic radius**. **Fr**
8. Give the **element symbol** for the **Group IVA element** with the **greatest metallic character**. **Pb**
9. Using the Periodic Table, determine the number of valence electrons for **magnesium**. **2**
10. Using the Periodic Table, determine the number of valence electrons for **chlorine**. **7**
11. Using the Periodic Table, determine the number of valence electrons for **silicon**. **4**
12. Indicate the number of electrons gained or lost when a neutral **strontium atom** becomes a **strontium ion**. **loses 2**
13. Indicate the number of electrons gained or lost when a neutral **phosphorus atom** becomes a **phosphide ion**. **gains 3**
14. Use the Periodic Table to determine the correct formula for the **ion formed by Ca**. **Ca²⁺**
15. Use the Periodic Table to determine the correct formula for the **ion formed by Br**. **Br⁻**
16. Use the Periodic Table to determine the correct formula for the **ion formed by nitrogen**. **N³⁻**
17. Use the Periodic Table to determine the correct formula for the **ion formed by K**. **K⁺**
18. Use the Periodic Table to determine the correct formula for the **ion formed by Al**. **Al³⁺**
19. Use the Periodic Table to determine the correct formula for the **ion formed by sulfur**. **S²⁻**
20. Check all of the ions below that are **isoelectronic** with **argon**.
a. O²⁻ b. Mg²⁺ c. Al³⁺ d. Ti⁴⁺ e. K⁺ f. Ca²⁺ g. P³⁻ h. Cl⁻ i. N³⁻ j. F⁻
21. Check all of the ions below that are **isoelectronic** with **neon**.
a. O²⁻ b. Mg²⁺ c. Al³⁺ d. Ti⁴⁺ e. K⁺ f. Ca²⁺ g. P³⁻ h. Cl⁻ i. N³⁻ j. F⁻
22. Give the **electron configuration for silicon** using core notation (Noble gas). **[Ne]3s²3p²**
23. Give the **electron configuration for sulfur** using core notation (Noble gas). **[Ne]3s²3p⁴**
24. Give the **electron configuration for Br⁻** using core notation (Noble gas). **[Kr]**
25. Give the **electron configuration for N³⁻** using core notation (Noble gas abbreviation). **[Ne]**
26. Give the **electron configuration for Ca²⁺** using core notation (Noble gas abbreviation). **[Ar]**
27. Give the **electron configuration for Na⁺** using core notation (Noble gas abbreviation). **[Ne]**