

Atomic and Ionic Radius Worksheet – Accel Chemistry

Name: _____ Pd: _____

Use the periodic table to answer the following questions:

- Which element has the largest radius? _____
- Which element has the smallest radius? _____
- Does atomic radius generally increase or decrease across (L to R) a period? _____
- Does atomic radius generally increase or decrease down a group? _____
- Circle the member of each pair below that is the **larger** atom.
 - Mg Sr b. Sr Sn c. Ge Sn
- Circle the member of each pair below that is the **smaller** atom.
 - Ge Br b. Cr W c. Li F
- Put the following elements in order of **increasing (smallest to largest)** atomic radius.
 - P, Cl, Br _____ b. Mg, Li, Ca _____
- Put the following elements in order of **decreasing (largest to smallest)** atomic radius.
 - B, F, Al _____ b. Sb, In, Pb _____

Use your notes and book to answer the following questions: Give the tendency for each trend across a period and down a group. Then explain why we see each trend.

1. Atomic Radius (pg. 187-188 Chemistry Book)

	Trend	Why?
Period		
Group		

2. Ionic Radius (pg. 189-190 Chemistry Book)

	Trend	Why?
Positive ions		
Negative ions		

3. Circle the member of each pair below that is the **larger** atom.

- Sc Zn c. In Sb e. Rb Li
- He Xe d. Po Hg f. Te O

4. For each of the following pairs, circle the one that has a **larger** radius.

- Mg Mg²⁺ c. Ca²⁺ Ba²⁺ e. Na⁺ Al³⁺
- S S²⁻ d. Cl⁻ I⁻ f. P³⁻ P

5. For each of the following pairs, circle the one that has the **smaller** radius.

- C F c. I⁻ I e. S²⁻ O²⁻
- Be Be²⁺ d. Rb⁺ Sr²⁺ f. Ne Kr

6. Put the following elements in order of **increasing (smallest to largest)** atomic radius.

- K, Cs, Ca _____ b. S, Si, Ge _____

