

Name _____

Periodic Trends

I. Which of the following in each pair has the larger atomic radius?

- 1) Li or K _____
- 2) Ca or Ni _____
- 3) Ga or B _____
- 4) O or C _____
- 5) Be or Ba _____
- 6) Si or S _____
- 7) Fe or Kr _____

II. Which of the following in each pair has the larger electronegativity?

- 8) Li or K _____
- 9) Ca or Ni _____
- 10) Ga or B _____
- 11) O or C _____
- 12) Be or Ba _____
- 13) Si or S _____
- 14) Fe or Kr _____

15) What do you notice about the answers in I vs. the answers in II? Why is this true?

III. Which of the following in each pair has the larger ionization energy?

- 16) Li or K _____
- 17) Ca or Ni _____
- 18) Ga or B _____
- 19) O or C _____
- 20) Be or Ba _____
- 21) Si or S _____
- 22) Fe or Kr _____

23) What do you notice about your answers in I vs. your answers in III? Why in this true?

IV. Which ion will have the smaller atomic radius?

- 24) K^+ or O^{2-} _____
- 25) Ba^{2+} or I^- _____
- 26) Al^{3+} or Cl^- _____
- 27) K^+ or Ca^{+2} _____
- 28) P^{-3} or S^{2-} _____

29) Why is the last answer S^{2-} ? Explain

V. For each of the following give the charge that it will have in a noble gas configuration.

- 30) O _____ 31) Rb _____ 32) I _____ 33) B _____ 34) N _____ 35) Si _____