PHYS 321 CH-12 Homework Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_


12.6 Which of the cations in Table 12.3 would you predict to form iodides having the cesium chloride crystal structure? Justify your choices.



12.18 (a)Using the ionic radii in Table 12.3, compute the theoretical density of CsCl. (Atomic masses: Cs=132.91 g/mol and Cl= 35.45 g/mol)

(b)The measured density is 3.99 g/cm3. How do you explain the slight discrepancy between your calculated value and the measured one?

12.24 Compute the atomic packing factor for cesium chloride using the ionic radii in Table 12.3 and assuming that the ions touch along the cube diagonals.

12.4 Demonstrate that the minimum cation-anion radius ratio for a coordination number of 8 is 0.732.

12.27 Show that the angle between covalent bonds in an tetrahedron is 109.50*.*

