

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Score: \_\_\_\_\_

## Problem Set 19: Ionic bonds; Formula Units

### Major Concepts

- Students are able to predict formula units from names
- Students know the properties of ionic bonds

### Reading

Chapter 12.5, re-read 12.4

Using one paragraph per section, summarize the two sections you just read.

### Reading Guide

Complete Reading Guide 19

### Lecture Notes

Print and read *Lecture 19* from TheChemBook; Combine your notes from class with the notes on TheChemBook. Use the Cornell Notes Strategy to review your notes each night (5 min.).

### Vocabulary

Define each vocabulary word.

Lattice energy

Polyatomic ions (4.4)

### Questions and Problems

1. Determine the formula units for the molecules listed at the end of lecture 19.
2. Why are cations smaller than their parent atoms?
3. What are anions larger than their parent atoms?
4. For each of the following pairs, indicate which is larger.
  - a.  $\text{Ca}^{2+}$  or Ca
  - b. Cl or  $\text{Cl}^-$
5. How do polyatomic anions differ from simple anions?
6. Do we write molecular or empirical formulas for ionic compounds? Why?
7. Draw and label the general structure of ions packed in a crystal.

Place your answers to problem set 19 in your 3-ring binder, Unit 2.