

## Week 2 Chemistry Questions

[Submit via course website](#) prior to class Jan. 26<sup>th</sup>

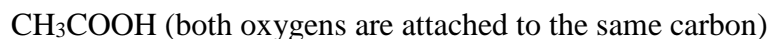
1. Determine the symbol, number of protons, neutrons and electrons for each neutral atom listed below.

ISOTOPE	SYMBOL	PROTONS	NEUTRONS	ELECTRONS
Cadmium-113				
Lead-208				
Arsenic-95				
Mercury-202				
Barium-138				

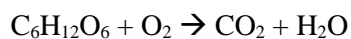
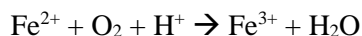
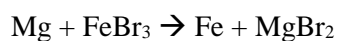
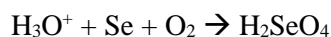
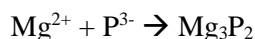
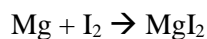
2. How many electrons do each of the following ions have?



3. Write the electron configuration for each elements from Problem 1. Mercury and Lead are tougher than the others – they involve the f orbitals. Please refer to the WUtopia! videos for a review.
4. Determine how many **valence** electrons are present in each element in problem 1.
5. Determine how many **valence** electrons are present in each ion in problem 2.
6. Draw a Lewis structure for each of the following compounds: **Please bring your answers to this question in class on Tuesday.**



7. Balance each of the reactions below:



8. The first four elements in problem 1 are toxic metals. Determine which of these are commonly ingested through diet. For these metals, what foods are commonly associated with accumulation?
9. Barium is used in medicine. Determine how it is used.
10. Listen to the [mp3 file that you can find here](#). In one paragraph, summarize the advice Dr. Ludwig gives.
11. Predict the product of the condensation reaction. Please bring this with you to class on Tuesday to submit.

