

Name: _____ Section: _____

Determining Whether Your Answers Are Sensible - Moles

Directions: When doing any type of problem that involves calculations, it is important for you to check your answer to determine whether or not it makes sense. This can be done by simply rereading the question and then by looking at your answer. If your answer does not seem reasonable, you should check your work and/or redo the problem. The following examples will help you practice doing this.

1. Kathryn was asked by one of her lab partners to figure out how many grams of Magnesium would be needed in order to have 1.5 moles of Magnesium for their experiment. Kathryn proceeded to convert the 1.5 moles to grams in order to determine the needed mass. Once finished, Kathryn told her partner that he needed to get 500 grams of magnesium from the teacher to perform the experiment. Her partner went to the teacher for the needed magnesium and the teacher angrily sent him away.

- Did Kathryn's calculations make sense? Explain.

- Show the proper calculations to help support your reasoning.

2. Determine the number of atoms that are in 563 grams of Boron.

- Does your answer make sense? Explain.

3. Mr. Smith (the 8th grade science teacher) asked his class to determine the number of atoms found in 0.65 moles of carbon. The class quickly got to work and started to do the conversion. After about ten seconds, Mike raises his hand, and yells out, "oh, oh, I know, I know" with great energy. Mr. Smith, noticing this strong desire to answer the question, calls on Mike immediately. Mike yells out, "there are fifteen atoms in 0.65 moles of carbon!" The entire classroom began laughing and pointing at Mike.

- Did Mike's answer make sense? Explain.
- Show the proper calculations to help support your reasoning.

4. Determine the mass (in grams) of 25 atoms of Xenon.

- Does your answer make sense? Explain.