

Name _____

Period _____

MOLE WORKSHEET

$$6.02 \times 10^{23} \text{ atoms} = 1 \text{ mole} = \text{atomic mass in grams}$$

Use unit analysis to solve the following problems. Make sure to show your work and circle your final answer.

1. Calculate the number of moles in 65.0 grams of gold.
2. Calculate the number of grams in 4.00 moles of mercury.
3. Calculate the number of atoms in 0.50 moles of barium.
4. Calculate the number of atoms in 24.56 grams of sulfur.
5. If you have 3.01×10^{23} atoms of zinc, how many moles are in the sample?
6. If you have 1.81×10^{24} atoms of sodium, what is the mass of the sample (in grams)?

Answers: 1) 0.330 moles 2) 802.4 grams 3) 3.0×10^{23} atoms 4) 4.61×10^{23} atoms 5) 0.500 moles 6) 69.2 grams