

Name: \_\_\_\_\_

Period: \_\_\_\_\_

### Chemical Quantities Review Sheet

1. Find the number of molecules of carbon dioxide in 4.56 moles of  $\text{CO}_2$ .

2. Find the number of moles of lead in 647 grams of lead.

3. Calculate the molar mass of one mole of  $\text{C}_{15}\text{H}_{34}\text{O}_4$ .

4. Calculate the number of moles in 358 g of aluminum hydroxide ( $\text{Al}(\text{OH})_3$ ).

5. Calculate the mass of  $6.42 \times 10^5$  molecules of  $\text{C}_3\text{H}_9\text{O}_5$ .

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### Chemical Quantities Review Sheet (cont.)

- A compound is 63.3% xenon and 36.7% fluorine by mass. Calculate the empirical formula.
- Caffeine is 49.5% C, 5.20% H, 28.9% N, and 16.5% O. The molecular mass is 194.0 g. Calculate the empirical formula and the molecular formula.
- Find the number of moles, molecules, and atoms that an 18.0 g sample of  $\text{H}_2\text{O}$  contains.
- Determine the number of moles in 345 liters of dinitrogen pentoxide ( $\text{N}_2\text{O}_5$ ) at STP.
- How many grams of calcium are in 240.0 g of  $\text{CaCO}_3$ ? (Hint: find the percent composition first!)