

Name: _____

Period: _____ Subject: _____

Date: _____

Law of Definite Proportions

Solve for the appropriate value. Be sure to show your work and remember to use the correct number of significant figures.

1. _____ A 53.0 g sample of an unknown compound contains 13.5 g of oxygen. What is the percent by mass of oxygen in the unknown compound?
2. _____ If 11.1 g of hydrogen reacts completely with 88.6 g of oxygen to form hydrogen peroxide, what is the percent by mass of hydrogen in hydrogen peroxide?
3. _____ A 111.7 g sample of iron reacts with 100.0 g of oxygen to form iron oxide (rust). After the reaction, there is 52.0 g of unreacted oxygen remaining. What is the percent by mass of oxygen in the rust?
4. _____ If a 43.0 g sample of carbon dioxide (CO_2) is found to be 27.3% by mass carbon, then how much oxygen (in grams) is found in a 78.0 g sample of carbon dioxide?
5. _____ A 57.6 g sample of methane (CH_4) is found to contain 43.2 g of carbon. How much hydrogen (in grams) would a 37.8 g sample of methane contain?