

Name: _____

Period: _____ Subject: _____

Date: _____

Conservation of Matter

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

1. _____ 91.96 g of sodium is reacted with chlorine to form 233.76 g of sodium chloride. How many grams of chlorine reacted with the sodium?

sodium + chlorine => sodium chloride
91.96 g ? 233.76 g

$$233.76 \text{ g} - 91.96 \text{ g} = \boxed{141.80 \text{ g}}$$

2. _____ In a flask, 20.6 grams of aluminum reacted with 200.0 g of liquid bromine to form aluminum bromide. After the reaction, 17.0 g of bromine remained unreacted. How many grams of aluminum bromide were formed?

aluminum + bromine => aluminum bromide + bromine
20.6 g 200.0 g ? 17.0 g

$$(20.6 \text{ g} + 200.0 \text{ g}) - 17.0 \text{ g} = \boxed{203.6 \text{ g}}$$

3. _____ 71.0 grams of substance X reacts with substance Y to form 175.2 g of compound XY. There are 20.0 g of substance Y remaining unreacted after the reaction occurs. How many grams of substance Y were present before the reaction?

substance X + substance Y => compound XY + substance Y
71.0 g ? 175.2 g 20.0 g

$$(175.2 \text{ g} + 20.0 \text{ g}) - 71.0 \text{ g} = \boxed{124.2 \text{ g}}$$