Practice: Stoichiometry # 1

**Directions:** Solve the following problems. Be sure to show all work. Please note that you will find the answers at the bottom of this page.

Equation for questions 1-4: 4Al + 3O2 🡪 2Al2O3

1. How many grams of aluminum oxide would form if 12.5 moles of aluminum burned?
2. How many moles of oxygen are needed to react with 7.5 moles of aluminum?
3. How many moles of oxygen are needed to react with 100.0 grams of aluminum?
4. How many grams of aluminum burned if 200.0 grams of aluminum oxide formed?

Answers

(1) 637 g Al2O3 (2) 5.6 mol O2 (3) 2.790 mol O2 (4) 105.8 g Al

Equation for questions 5-8: C3H8 + 5O2 🡪 3CO2 + 4H2O

1. How many moles of carbon dioxide will form if 5.5 moles of C3H8 is burned
2. If 30.0 moles of oxygen are used, how many grams of water will form?
3. If 100.0 grams of C3H8 burns, how many moles of carbon dioxide will form?
4. How many grams of oxygen are needed to burn 5.0 moles of C3H8?

Answers

(5) 17 mol CO2 (6) 432 g H2O (7) 6.804 mol CO2 (8) 8.0 x 102 g O