

DVHS Honors Chemistry
Practice Quiz-2: Stoichiometry

1. Which of the following statements is true?

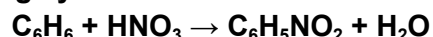
I. The molar mass of CaCO_3 is 100.1 g/mol

II. 50 g of CaCO_3 contains 9×10^{23} oxygen atoms.

III. A 200 g sample of CaCO_3 contains 2 moles of CaCO_3

- a. I only b. II only c. III only d. I and III only e. I, II, and III

2. The reaction of 7.8 g benzene (C_6H_6), with excess HNO_3 resulted in 0.90 g of H_2O . What is the percentage yield?



- a. 100% b. 90% c. 50% d. 12% e. 2%

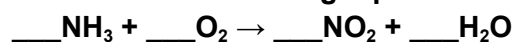
3. What is the total mass of products formed when 16 grams of CH_4 is burned with excess oxygen?

- a. 32 g b. 36 g c. 44 g d. 62 g e. 80 g

4. Write a balanced equation for the combustion of propane [C_3H_8]. When balanced, the equation indicates that ____ moles of O_2 are required for each mole of C_3H_8 .

- a. 1.5 b. 3 c. 3.5 d. 5 e. 8

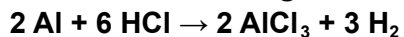
5. Balance the following equation:



The balanced equation shows that 1.00 mole of NH_3 requires ____ mole(s) of O_2

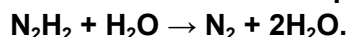
- a. 0.57 b. 1.25 c. 1.33 d. 1.75 e. 3.5

6. Calculate the mass of hydrogen formed when 27 g of aluminum reacts with excess hydrochloric acid according to the balanced equation below.



- a. 1.5 g b. 2.0 g c. 3.0 g d. 6.0 g e. 12 g

7. The balanced chemical equation for the reaction that is used to fuel rockets is



How many grams of N_2H_2 are needed to produce 10.0 mol nitrogen gas?

- a. 600. g b. 300 g c. 3.0×10^2 g d. 300. g e. 600 g

8. Determine the mole ratio necessary to convert mole of aluminum to moles of aluminum chloride. The unbalanced equation is $__\text{Al} + __\text{Cl}_2 \rightarrow __\text{AlCl}_3$

- a. 2:3 b. 2:2 c. 3:2 d. 1:3 e. 3:1

9. What is the molar mass of $\text{Zn}(\text{C}_2\text{H}_3\text{O}_2)_2$?

- a. 392.8g/mol b. 142.9g/mol c. 361g/mol d. 183.5 g/mol

10. $__\text{B}_2\text{H}_6 + __\text{O}_2 \rightarrow __\text{HBO}_2 + __\text{H}_2\text{O}$

What mass of O_2 will be needed to burn 36.1 g of B_2H_6 ?

- a. 13.8 g O_2 b. 3.86 mol of O_2 c. 124 g O_2 d. 124.0 g O_2

Practice Quiz-2: Key

1. E

2. C

3. E

4. D Balanced equation: $\text{C}_3\text{H}_8 + 5\text{O}_2 \rightarrow 3\text{CO}_2 + 4\text{H}_2\text{O}$

5. D Balanced equation: $4\text{NH}_3 + 7\text{O}_2 \rightarrow 4\text{NO}_2 + 6\text{H}_2\text{O}$

6. C

7. D

8. B

9. D

10. C