

Name: _____

Mole Ratios Practice#1

(show all work AND units!!)

1. Given this equation: $\text{N}_2 + 3 \text{H}_2 \rightarrow 2 \text{NH}_3$, write the following molar ratios:

a) N_2 / H_2

1a) _____

b) N_2 / NH_3

1b) _____

c) H_2 / NH_3

1c) _____

2. Given the following equation: $8 \text{H}_2 + \text{S}_8 \rightarrow 8 \text{H}_2\text{S}$, write the following molar ratios:

a) $\text{H}_2 / \text{H}_2\text{S}$

2a) _____

b) H_2 / S_8

2b) _____

c) $\text{H}_2\text{S} / \text{S}_8$

2c) _____

3. Answer the following questions for this equation: $2 \text{H}_2 + \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$

a) What is the $\text{H}_2 / \text{H}_2\text{O}$ molar ratio?

3a) _____

b) Suppose you had 20 moles of H_2 on hand and plenty of O_2 , how many moles of H_2O could you make?

3b) _____

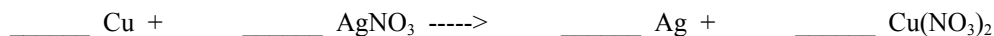
c) What is the $\text{O}_2 / \text{H}_2\text{O}$ molar ratio?

3c) _____

d) Suppose you had 20 moles of O_2 and enough H_2 , how many moles of H_2O could you make?

3d) _____

Given the following chemical equation, answer questions #4-#6 below:



4. Balance the equation above.

5. If 1.0 mol of silver (I) nitrate is consumed,

a. how many moles of silver are produced?

5a) _____

b. how many moles of copper (II) nitrate are produced?

5b) _____

c. how many moles of copper are used?

5c) _____

6. If 2.64 moles of silver are produced,

a. how many moles of copper are consumed?

6a) _____

b. how many moles of silver (I) nitrate are consumed?

6b) _____

c. how many moles of copper (II) nitrate are produced?

6c) _____

7. a. Write a balanced equation for the combustion of methane, CH_4 .

b. If you burn 4.00 moles of methane, how many moles of oxygen are required?

7b) _____

c. If you burn 3.19 moles of methane, how many moles of each product will be formed?

7c) _____