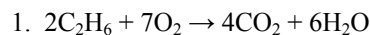


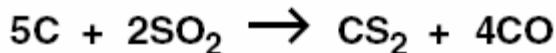
SOL Questions – Chapter 8

Each of the following questions below appeared on an SOL Chemistry Exam between 2000 and 2003. For each of the following circle the best answer.



To produce 12 moles of water, how many moles of oxygen gas are needed?

- a. 2 b. 7 c. 9 d. 14



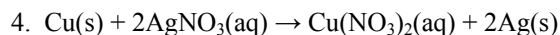
2. Carbon disulfide is prepared industrially by reacting carbon with sulfur dioxide according to the above equation. If 5.9 moles of carbon react, how many moles of CS₂ are produced?

- a. 0.077 moles b. 1.2 moles c. 1.5 moles d. 30 moles

3. A chemical engineer for a fertilizer company is determining the most efficient way to produce ammonia. The engineer carries out the Haber reaction under four different conditions. According to these data, which procedure gave the greatest percent yield?

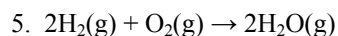
- a. A b. B c. C d. D

Procedure	Initial Volume(m ³)		Final Volume(m ³)		
	N ₂	H ₂	N ₂	H ₂	NH ₃
A	1000	3000	600	1800	800
B	1000	3000	250	750	1500
C	1000	3000	450	1350	1100
D	1000	3000	375	1125	1250



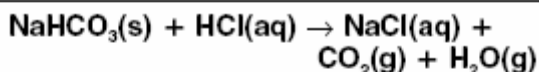
When copper reacts with silver nitrate according to the equation, the number of grams of copper required to produce 432 grams of silver is —

- a. 31.5 g b. 127 g c. 216 g d. 252 g



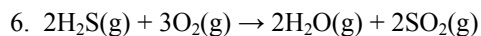
How many liters of oxygen are required to produce 2 liters of water at STP?

- a. 1 b. 2 c. 3 d. 4



Data Table

evaporating dish + watch glass	42.70 g
evaporating dish + watch glass + NaHCO ₃	45.20 g
evaporating dish + watch glass + NaCl	44.45 g



If 3.50 g of H₂S are used in the above reaction, what will be the theoretical yield of water in grams?

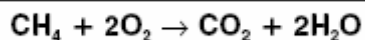
- a. 0.102 g b. 0.185 g
c. 1.85 g d. 185 g

7. A student conducted an experiment and was interested in the mass of the product of the chemical reaction. Some results of the experiment are shown to the left. What is the mass of the NaCl?

- a. 0.75 g b. 1.75 g
c. 2.25 g d. 2.50 g

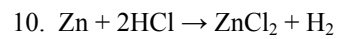
8. When magnesium metal (Mg) is burned, it forms MgO. How many moles of oxygen gas (O₂) are needed to burn 10 moles of Mg?

- a. 2 b. 5 c. 10 d. 20



9. The number of grams of oxygen required for the complete combustion of 4.00 grams of methane (CH₄) is —

- a. 4.00 g b. 8.00 g c. 16.0 g d. 32.0 g



If 0.600 gram of zinc is used, what is the amount of zinc chloride that is produced in the above reaction?

a. 0.125 gram

b. 1.25 grams

c. 12.5 grams

d. 0.018 gram

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