Unit 8 Test Review

For help setting up equations, use the Unit 8 Stoichiometry Formula Guide. A copy can be found in the Unit 8 Notes folder or you may use this direct link:

https://henrico.schoology.com/course/2163002460/materials/gp/2408359221

Question 1 (1 point)

What is the mass of 0.800 moles of ammonium phosphate?

_____ grams $(NH_4)_3PO_4$

Blank 1:

Question 2 (1 point)

How many grams are there in 1.50 moles of silver chromate?

_____ grams Ag_2CrO_4

Blank 1:

Question 3 (1 point)

How many moles are in 5 liters of water vapor at STP?

_____ moles H_2O

Blank 1:

Question 4 (1 point)

How many moles are in 37.25 liters of carbon dioxide?

_____ moles CO_2

Blank 1:

Question 5 (1 point)

How many moles are in 4.28×10^{23} atoms of carbon?

_____ moles C

Blank 1:

Question 6 (1 point)

How many atoms are present in 0.678 moles of argon?

_____ x 10 ———— atoms Ar

Blank 1:

Blank 2:

Question 7 (1 point)

How many moles are in 7.82×10^{21} molecules of phosphorus trichloride?

_____ moles PCl_3

Blank 1:

Question 8 (1 point)

How many moles are present in 1.65×10^{22} molecules of methanol?

_____ moles CH_3OH

Blank 1:

Question 9 (1 point)

How many atoms are present in 0.750 grams of sodium?

_____ x 10 ———— atoms Na

Blank 1:

Blank 2:

Question 10 (1 point)

How many atoms are present in 0.001 gram of gold?

_____ x 10 ———— atoms Au

Blank 1:

Blank 2:

Question 11 (1 point)

What is the mass of 100.0 liters of phoshporus trihydride gas at STP?

_____ grams PH_3

Blank 1:

Question 12 (1 point)

What volume will 75.0 grams of oxygen gas occupy at STP?

_____ Liters O_2

Blank 1:

Question 13 (1 point)

How many molecules are present in 122 grams of nitrogen dioxide gas?

_____ x 10 ———— molecules NO_2

Blank 1:

Blank 2:

Question 14 (1 point)

How many grams are there in 1.00×10^{24} molecules of boron trichloride?

_____ grams BCl_3

Blank 1:

Question 15 (1 point)

How many atoms are present in 19 liters of helium gas?

_____ x 10 ———— atoms He

Blank 1:

Blank 2:

Question 16 (1 point)

How many atoms are present in 0.050 liters of radon gas?

_____ x 10 ——— atoms Rn

Blank 1:

Blank 2:

Question 17 (1 point)

What is the volume of 7.5×10^{21} molecules of nitrogen gas?

_____ Liters N_2

Blank 1:

Question 18 (1 point)

How many molecules of methane gas are present in 2.500 L at STP?

_____ x 10 ——— molecules of CH_4

Blank 1:

Blank 2:

Question 19 (1 point)

How many moles of hydrogen gas are required to produce 25.0 moles of ammonia?

_____

$N_2\ (g) + 3\ H_2\ (g) \rightarrow 2\ NH_3\ (g)$

Answer must contain proper significant digits, units, and chemical formula.

Blank 1:

Question 20 (1 point)

How many moles of oxygen gas are required to produce 0.025 moles carbon dioxide?

_____

$CH_4\ (g) + 2\ O_2\ (g) \rightarrow CO_2\ (g) + 2\ H_2O\ (g)$

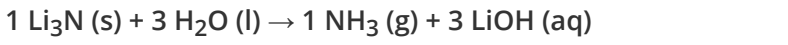
Answer must contain proper significant digits, units, and chemical formula.

Blank 1:

Question 21 (1 point)

Answer must contain proper significant digits, units, and chemical formula.

How many liters of ammonia are produced from 0.333 moles of water and excess lithium nitride? _____



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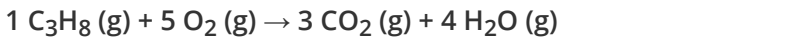
Question 22 (1 point)

Answer must contain proper significant digits, units, and chemical formula.

How many liters of carbon dioxide gas are produced from 0.012 moles oxygen and excess propane at STP? _____



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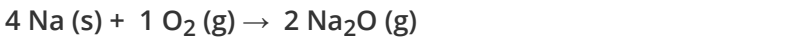
Question 23 (1 point)

Answer must contain proper significant digits, units, and chemical formula.

How many grams of sodium will react with 25 grams oxygen gas in order to produce sodium oxide? _____



Blank 1:

Question 24 (1 point)

Answer must contain proper significant digits, units, and chemical formula.

How many grams of calcium hydroxide must react with excess aluminum sulfate to produce 30.0 grams of calcium sulfate? _____

Blank 1:

Question 25 (1 point)

A chemist reacts 100.0 Liters of nitrogen with 100.0 Liters of hydrogen to make ammonia. Using the balanced equation below, answer the following questions:

$1\ N_2\ (g) + 3\ H_2\ (g) \rightarrow 2\ NH_3\ (g)$

What is the limiting reactant? _____

What is the volume of the theoretical yield of ammonia? _____ Liters NH_3

Blank 1:

Blank 2:

Question 26 (1 point)

A chemist reacts 50.0 grams of potassium phosphate with 50.0 grams of aluminum carbonate. Using the balanced equation below, answer the following questions:

$2\ K_3PO_4\ (aq) + Al_2(CO_3)_{3\ (aq)} \rightarrow 3\ K_2CO_3\ (aq) + 2\ AlPO_{4\ (s)}$

What is the limiting reactant? _____

What is the theoretical yield of aluminum phosphate? _____ grams $AlPO_4$

Blank 1:

Blank 2:

Question 27 (1 point)

A reaction has a theoretical yield of 36.0 L CO_2, but only 29.7 L CO_2 are obtained in the lab, what is the percent yield of CO_2 for this reaction? _____

Blank 1:

Question 28 (1 point)

A single replacement reaction has a theoretical yield of 1.25 grams of hydrogen gas. However, the actual experiment only produces 0.96 grams of hydrogen in the lab. What is the percent yield for this reaction? _____

Blank 1:

Question 29 (1 point)

Answer must contain proper significant digits, units, and chemical formula.

A chemist determines that magnesium is the limiting reactant for the synthesis of magnesium oxide. If the reaction begins with 1.50 grams of each reactant, how many grams of oxygen gas remain in excess? _____

$2\ Mg\ (s) + O_2\ (g) \rightarrow 2\ MgO\ (s)$

Blank 1:

Question 30 (1 point)

Answer must contain proper significant digits, units, and chemical formula.

A chemist determines that oxygen gas is the limiting reactant for the synthesis of water. If the reaction begins with 5.00 grams of each reactant, how many grams of hydrogen gas remain in excess? _____

$2\ H_2\ (g) + O_2\ (g) \rightarrow 2\ H_2O\ (l)$

Blank 1:

You are viewing this test/quiz in preview mode. Your answers will not be saved and cannot be reviewed.

Review Answers