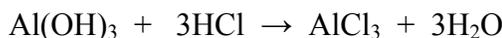


Name _____

Stoichiometry

- 1) If 5.32 grams of aluminum hydroxide are consumed according to the following equation, then how many moles of hydrochloric acid were used?



0.205 moles HCl

- 2) How many grams of carbon dioxide will be produced from the combustion of 4.20L of propane gas (C_3H_8) at STP?

24.8g CO₂

- 3) How many atoms of oxygen are required to react with magnesium in order to create 1.42g of magnesium oxide?

2.12x10²² atoms O

- 4) Determine how many molecules of carbon dioxide will be produced if 4.82×10^{14} molecules of glucose is converted alcohol by the following equation.

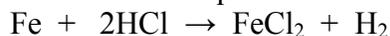


9.64x10¹⁴ molecules CO₂

- 5) How many grams of sulfur are needed to create 0.862mL of sulfur dioxide gas at STP from a reaction with oxygen?

1.23x10⁻³g S

Use the following equation to answer questions 6-10:



- 6) If 5.82L of hydrogen gas was created at STP, then how many atoms of iron were consumed?

1.56x10²³ atoms Fe

- 7) How many formula units of iron (II) chloride were created from 8.34g Fe?

8.99x10²² F.U's FeCl₂

- 8) If the density of HCl is 1.19g/mL, then how many milliliters of acid are needed to create 6.24g of FeCl₂?

3.02mL HCl

- 9) How many formula units of HCl are necessary to produce 1.85×10^{22} atoms of hydrogen in the hydrogen gas?

1.85x10²² F.U's HCl

- 10) How many moles of iron (II)chloride will be produced if 6.3 moles of hydrochloric acid were consumed?

3.15 moles FeCl₂

Use the following equation to answer questions 11-15:



- 11) How many liters of oxygen gas at STP are required to fully react 58.3g of C₂H₆?

152L O₂

- 12) How many liters of carbon dioxide had been released if 6.32L of oxygen were consumed at STP?

3.61L CO₂

- 13) How many atoms of oxygen are required to produce 4.88×10^{20} molecules of CO₂?

1.71x10²¹ atoms O

- 14) If 14.2g of CO₂ were created, and the water vapor was condensed, then how many milliliters of water would you expect to collect?

8.72mL H₂O

- 15) How many atoms of carbon were involved in the reaction if 2.58grams of C₂H₆ were consumed?

1.03x10²³ atoms C