

Name:

Period:

Seat#:

Directions: Any questions that were not completed in class as part of the Board Game Review need to be finished as homework. Here are all the questions that were part of the review game if you missed any during the game, didn't finish the game in class, or you were absent. Remember to show work for ANY math problems, include ALL units, and non-math questions should have good/detailed answers but do not need to be in sentence form unless asked for specifically.

- 1) What is the name of the compound SrO ?
- 2) What is the molar mass for the hydrocarbon $\text{C}_{24}\text{H}_{37}\text{O}_6$?
- 3) What happens to the electrons during a metallic bond?
- 4) What type of bond forms between two nonmetals share electrons?
- 5) Balance the following reaction and identify the mole ratio between the two reactants. $\text{CH}_4 + \text{O}_2 \rightarrow$
- 6) What are the dominant intermolecular forces present in water?
- 7) Rank the bulk forces in order of strength from weakest to strongest.
- 8) What is the formula for copper (IV) sulfate?
- 9) What kind of a reaction is this? $\text{Na} + \text{CaSO}_4 \rightarrow$
- 10) Which molecule has covalent bonding and does not require a double or triple bond? CO_2 , CO , N_2 , Cl_2
- 11) Draw the Lewis dot structure for BrO_3^-
- 12) What is the VSEPR geometry for carbon tetrachloride?
- 13) What is the molar mass of $(\text{NH}_4)_2\text{S}$?
- 14) What is the VSEPR geometry for ammonia?
- 15) Draw the Lewis Dot structure for nitrogen gas.
- 16) What kind of a reaction requires O_2 as a reactant?
- 17) Predict the products and balance the following reaction: aluminum phosphate plus rubidium nitrite
- 18) In a 'polar' bond, the elements involved are sharing the electron(s)...
- 19) If you have 10 mol of Zn , how many mols of ZnO can be produced? $3\text{Zn} + \text{Al}_2\text{O}_3 \rightarrow 3\text{ZnO} + 2\text{Al}$
- 20) If you have 25g of Zn , how many g of ZnO can be produced? $3\text{Zn} + \text{Al}_2\text{O}_3 \rightarrow 3\text{ZnO} + 2\text{Al}$
- 21) Name the seven diatomic elements.
- 22) What is the molar mass of $\text{Al}(\text{OH})_3$?
- 23) If you have 38L of O_2 at STP, how many L of H_2O can you make, assuming your water is gaseous? $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
- 24) Draw the Lewis dot structure for AlH_3
- 25) What is the mole ratio of TNT to carbon monoxide?
 $\text{C}_7\text{H}_5\text{N}_3\text{O}_6 \rightarrow \text{CO} + \text{C} + \text{H}_2\text{O} + \text{N}_2$
- 26) What is the formula of sodium carbonate?
- 27) What is the molar mass of sodium carbonate?
- 28) What is the molar mass of iron (III) sulfate
- 29) How many moles of iron (III) sulfate in 44.5g iron (III) sulfate? The molar mass is 400.1 g/mol.
- 30) How many grams potassium chloride are in 14.6 moles potassium chloride? 1 mole = 74.5 g
- 31) How many grams of iron (III) carbonate are found in 5.46 moles iron (III) carbonate?
- 32) Aqueous copper(II) bromide reacts with aqueous aluminum chloride. What type of reaction is this?
- 33) Aqueous copper(II) bromide reacts with aqueous aluminum chloride. Balance this equation and predict the products.
- 34) How many moles of sodium carbonate are in 10.9 g sodium carbonate? Molar mass is 106 g
- 35) What is the mole ratio of iron(III) sulfate to sodium sulfate?
 $\text{Fe}_2(\text{SO}_4)_3 + 3\text{Na}_2\text{CO}_3 \rightarrow \text{Fe}_2(\text{CO}_3)_3 + 3\text{Na}_2\text{SO}_4$
- 36) If 10 moles iron (III) sulfate reacts, how many moles sodium sulfate will form?
 $\text{Fe}_2(\text{SO}_4)_3 + 3\text{Na}_2\text{CO}_3 \rightarrow \text{Fe}_2(\text{CO}_3)_3 + 3\text{Na}_2\text{SO}_4$
- 37) If 15 g oxygen is reacted with hydrogen, then how many moles water will be produced?
- 38) What are three of the four indications that a chemical reaction has occurred?
- 39) If 46 g sodium metal reacts completely, how many moles chlorine gas will be required to make sodium chloride?

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Evidence of Board Game Review Participation – Questions

- 40)** If 100 g sodium chloride reacts completely with barium, then how many grams sodium metal will be obtained?
 $2\text{NaCl} + \text{Ba} \rightarrow \text{BaCl}_2 + 2\text{Na}$
- 41)** How many liters fluorine gas in 0.87 moles of fluorine gas at STP?
- 42)** How many grams of oxygen gas are in 0.69L of oxygen gas at STP?
- 43)** $2\text{H}_2\text{S} + 3\text{O}_2 \rightarrow 2\text{SO}_2 + 2\text{H}_2\text{O}$ How many moles of H_2S are required to form 8.20 moles of SO_2 ?
- 44)** $2\text{NaClO}_3 \rightarrow 2\text{NaCl} + 3\text{O}_2$ How many molecules of oxygen are produced when 80.0 grams of sodium chloride are produced?
- 45)** $\text{Na}_2\text{S}_2\text{O}_3(\text{aq}) + 4\text{Cl}_2(\text{g}) + 5\text{H}_2\text{O}(\text{aq}) \rightarrow 2\text{NaHSO}_4(\text{aq}) + 8\text{HCl}(\text{aq})$
How many moles of H_2O react if 5.24×10^{19} molecules of HCl are formed?
- 46)** Draw the Lewis structure and identify the VSEPR geometry for BCl_3 .
- 47)** Which electrons are involved in bonding?
- 48)** How many electrons does Antimony need to gain or lose to have a full valence shell?
- 49)** How many valence electrons are available in NF_3 ?
- 50)** Identify if the following are ionic or covalent:
 LiF , CH_4 , CH_3OH , NH_3 , MgO
- 51)** List the first ten prefixes used to name covalent molecules
- 52)** Name C_2H_6
- 53)** Name Ag_2O
- 54)** Name $\text{Cu}(\text{NO}_2)_3$
- 55)** Name SO_6
- 56)** Draw the Lewis structure for BaS
- 57)** Draw the Lewis Structure for CH_3OH
- 58)** How many lone pairs does CH_4 have?
- 59)** How many lone pairs does NH_3 have?
- 60)** Is SF_2 polar or non-polar?
- 61)** Is SiO_2 polar or non-polar?
- 62)** Which is more polar, CHCl_3 or CHBr_3
- 63)** Identify the main IMF present in F_2
- 64)** Identify the main IMF present in HCl
- 65)** Identify the main IMF present in C (graphite)
- 66)** What is the sum of the coefficients when balanced:
 $\text{___Ag} + \text{___S} \rightarrow \text{Ag}_2\text{S}$