CHEM 118 Chapter 7 Quiz 40 Points

(1) The reaction of baking soda and vinegar to produce carbon dioxide gas is an example of a precipitation (1 Point)

True False

(2) Combustion reactions are a subcategory of oxidation-reduction reactions. (1 Point)

True False

(3) Color change is evidence that a chemical reaction has occurred. (1 Point)

True False

(4) The formation of a gas is evidence of a chemical reaction while the emission of light is not. (1 Point)

True False

(5) Bubbles in water that appear during boiling show that a chemical reaction is occurring. (1 Point)

True False

(6) When balancing a chemical equation you may alter the coefficients but not the subscripts in the equation. (1 Point)

True False

(7) A strong electrolyte solution contains ionic compounds that completely dissociate in water. (1 Point)

True False

(8) When compounds containing polyatomic ions dissolve, the polyatomic ions usually dissolve as intact units. (1 Point)

True False

(9) Li^+, Na^+, K^+ and NH_4^+ compounds are soluble. (1 Point)

True False

(10) Cl^-, Br^-, and I^- are mostly insoluble. (1 Point)

True False

(11) A net ionic equation shows all ionic species that are present in solution. (1 Point)

True False

(12) A spectator ion is one that does not actively participate in a chemical reaction. (1 Point)

True False

(13) One of the characteristics of an acid-base reaction is that this type of reaction forms water. (1 Point)

True False

(14) An oxidation-reduction reaction must involve reaction with oxygen. (1 Point)

True False

(15) Combustion reactions absorb heat and so can be classified as endothermic. (1 Point)

True False

(16) Decomposition reactions usually require energy to initiate the reaction. (1 Point)

True False

(17) A reaction which forms a gaseous product is an example of a(n)_____. (2 Points)

A) oxidation-reduction reaction
B) combustion reaction
C) precipitation reaction
D) gas evolution reaction
E) none of the above

(18) A reaction in which a substance reacts with oxygen, emitting heat and forming oxygen-containing compounds is an example of a(n) (2 Points)

A) acid-base reaction.
B) combustion reaction.
C) precipitation reaction.
D) gas evolution reaction.
E) none of the above

(19) Which of the following statements about balancing reactions is FALSE? (2 Points)

A) If there is no coefficient or subscript, a one is implied.
B) When coefficients are added the type of compounds is changed in the chemical reaction.
C) Subscripts are multiplied by the coefficients to determine the number of atoms in a compound.
D) Coefficients are added to compounds to ensure both sides of the reaction have equal numbers of each atom.
E) All of the above statements are true.

(20) When the equation, ___N_2 + ___H_2 → ___NH_3 is balanced, the coefficient of hydrogen is: (2 Points)

A) 1
B) 2
C) 3
D) 4
E) none of the above

(21) What are the coefficients for the following reaction when it is properly balanced? (2 Points)

___HCl + ___Mg → ___$MgCl_2$ + ___ H_2

A) 2, 1, 1, 1
B) 2, 1, 2, 2
C) 1, 2, 1/2, 1
D) 1, 1, 1, 2
E) none of the above

(22) Which of the following equations is NOT balanced properly? (2 Points)

A) $2Cr + 6HCl \rightarrow 2CrCl_3 + 3H_2$
B) $2NaHCO_3 \rightarrow Na_2CO_3 + CO_2 + H_2O$
C) $Cr_2(SO_4)_3 + 6KOH \rightarrow 2Cr(OH)_3 + 3\ K_2SO_4$
D) $4NH_3 + 14O_2 \rightarrow 4NO_2 + 6H_2O$
E) none of the above

(23) An aqueous solution is: (2 Points)

A) any liquid with another compound dissolved in it.
B) an ionic compound with water dissolved in it.
C) water with a molecular compound dissolved in it.
D) water with another compound dissolved in it.
E) none of the above

(24) The compound sodium sulfate is soluble in water. When this compound dissolves in water, which ion listed below would be present in solution? (2 Points)

A) SO_4^{2-}

B) S^{2-}

C) O^{2-}

D) Na_2^{2+}

E) none of the above

(25) Which is a spectator ion from the following complete ionic equation: (2 Points)

$Ag^+(aq) + NO_3^-(aq) + K^+(aq) + Br^-(aq) \rightarrow AgBr(s) + K^+(aq) + NO_3^-(aq)$

A) Ag^+

B) Br^-

C) K^+

D) AgBr

E) none of the above

(26) What type of reaction is the generic equation A + B → AB? (2 Points)

A) synthesis/combination

B) decomposition

C) single displacement

D) double-displacement

E) none of the above

(27) What type of reaction is the generic equation $A + BC \rightarrow AC + B$? (2 Points)

A) synthesis/combination

B) decomposition

C) single displacement

D) double-displacement

E) none of the above

(28) What type of reaction is the generic equation AB + CD → AD + CB? (2 Points)

A) synthesis/combination

B) decomposition

C) single displacement

D) double-displacement

E) none of the above