

34. A chemical equation in which  $\_$  is called a(n)  $\_$  equation.

35. Use your Reference sheets to find ANY reaction types that will form  $\text{CO}_2 + \text{H}_2\text{O}$  (with or without other products). What types of reactions will form these 2 products?

Use the correct physical state symbol, (s) or (aq), to indicate which of the following is soluble in water.

omit  
36. calcium fluoride  $\_$

37. Silver chloride  $\underline{\text{S}}$

38.  $\text{K}_2\text{S}$   $\underline{\text{AQ}}$

39.  $\text{HgS}$   $\underline{\text{S}}$

40.  $\text{NH}_4\text{NO}_3$   $\underline{\text{AQ}}$

41.  $\text{Ag}_2\text{S}$   $\underline{\text{S}}$

Write a balanced equation for each of these reactions (if they occur)

42. aluminum reacts with copper (II) sulfate  $\rightarrow \text{Al}_2(\text{SO}_4)_3 + \text{Cu}(s)$

43. zinc is added to cold water  $\text{NR}$

44. calcium metal is added to a solution of magnesium chloride  $\rightarrow \text{CaCl}_2(aq) + \text{Mg}(s)$

45. calcium chloride and silver nitrate react  $\rightarrow \text{AgCl}(s) + \text{Ca}(\text{NO}_3)_2(aq)$

46.  $\text{C}_5\text{H}_{12} + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$

47.  $\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{H}_2\text{O} + \text{Na}_2\text{SO}_4$

DD Neutralization  
48. synthesis reaction between aluminum and bromine  $2\text{Al}(s) + 3\text{Br}_2 \rightarrow 2\text{AlBr}_3$

49.  $\text{Mg}(\text{HCO}_3)_2 \rightarrow \text{MgO}(s) + \text{H}_2\text{O}(l) + \text{CO}_2$

50. magnesium bromide reacts with chlorine to yield...

$\text{MgBr}_2(aq) + \text{Cl}_2(aq) \rightarrow \text{MgCl}_2(aq) + \text{Br}_2(l)$

Review full ionic or net ionic equations

51. Write the full ionic equation for  $\text{Ca}(s) + \text{MgCl}_2(aq) \rightarrow \text{CaCl}_2(aq) + \text{Mg}(s)$

52. Write the net ionic equation for  $\text{Pb}(\text{NO}_3)_2(aq) + 2\text{KI}(aq) \rightarrow \text{PbI}_2 + 2\text{KNO}_3$

Color Change is one indication that a reaction has occurred. Which of these color changes represents a chemical reaction? Explain.

53. Phenolphthalein turns pink <sup>with</sup> when a base is mixed with an acid.

54. A deep red solution of a cobalt salt turns a lighter color when water is added. Dilution

55. An iron grill left outside develops a reddish residue on it over time.

Rxn  $\rightarrow$  Rust  $\text{Fe}_2\text{O}_3$