Chemical Reaction Types Quiz

Identify each chemical reaction as:
synthesis (S)
decomposition (D)
single replacement (SR)
double-replacement (DR)
or combustion reaction (C)

1. DR — $2\ Al_2(SO4)_3 + 3Ca(OH)_2 \rightarrow 2Al(OH)_3 + 3CaSO4$
2. C — $2C_2H_2 + 5O_2 \rightarrow 4CO_2 + 2H_2O$
3. SR — $Mg + 2AgNO_3 \rightarrow Mg(NO_3)_2 + 2Ag$
4. DR — $3Ba(NO_3)_2 + 2H_3PO_4 \rightarrow Ba_3(PO_4)_2 + 6HNO_3$
5. D — $Mg(ClO_3)_2 \rightarrow MgCl_2 + 3O_2$
6. S — $2Be + O_2 \rightarrow 2BeO$

For 7-11

A. Predict the products (remember to write the correct chemical formula
B. Balance the Reaction **(SHOW YOUR INVENTORIES!!!)**
C. Box in the coefficients.

DR 7. ____ Na_2SO_4 + ____ $CaCl_2 \rightarrow$ 2 NaCl + $CaSO_4$

+1 2- +2 1-

A. $NaCl + CaSO_4$

B. Na-2 SO4-1 Ca-1 Cl-2 | Na-2 SO4-1 Ca-1 Cl-2

8. ____ Fe + ____ $H_2O \rightarrow$

Use Fe^{+1}

2 options: $Fe + H_2O \rightarrow Fe_2O + H_2$ Balanced

- OR -

$Fe + 2HOH \rightarrow 2FeOH + H_2$

9. _____ Na + _____ $H_2O \rightarrow$

2 options: $Na + H_2O \rightarrow Na_2O + H_2$

- OR -

$Na + H_2O \rightarrow NaOH + H_2$

10. 2 NO $\rightarrow N_2 + O_2$ (diatomic molecules)

Combustion

11. _____ CH_4 + 2 $O_2 \rightarrow CO_2 + 2H_2O$

C-1	C-1
H-4	H-2 4
O-2 4	O-3 4

12. Write the word equation for the following chemical reaction. (Don't forget about the states of matter):

$Mg(s) + FeCl_3(aq) \rightarrow Fe(s) + MgCl_2(aq)$

Solid magnesium and aqueous iron (III) chloride react to form solid iron and aqueous magnesium chloride

13. When solid sodium reacts with aqueous magnesium iodide, the products are aqueous sodium iodide and solid magnesium. Write the chemical reaction using chemical formulas, note the states of matter in parentheses, and balance the equation.

$2Na(s) + MgI_2(aq) \rightarrow 2NaI(aq) + Mg(s)$