Chemical Reactions Review Name Key

Classify and balance the following reactions.

1. synthesis 1 Fe + 1 S → 1 FeS
2. double replacement 2 KI + 1 $Pb(NO_3)_2$ → 2 KNO_3 + 1 PbI_2
3. double replacement 1 $MgCl_2$ + 2 NH_4NO_3 → 1 $Mg(NO_3)_2$ + 2 NH_4Cl
4. single replacement 1 Fe_2O_3 + 3 C → 2 Fe + 3 CO
5. synthesis 1 CO_2 + 1 H_2O → 1 H_2CO_3
6. decomposition 1 $Pb(OH)_2$ → 1 PbO + 1 H_2O
7. combustion 1 C_7H_6O + 8 O_2 → 3 H_2O + 7 CO_2

X ____ ____ Li_2CO_3 + ____ O_2 → ____ $LiClO_2$

9. synthesis 1 N_2 + 3 H_2 → 2 NH_3
10. single replacement 1 Cl_2 + 2 NaI → 1 I_2 + 2 NaCl
11. synthesis 1 BaO + 1 CO_2 → 1 $BaCO_3$
12. combustion 2 C_6H_6 + 15 O_2 → 12 CO_2 + 6 H_2O
13. single replacement 1 Al + 1 $Pb(NO_3)_3$ → 1 $Al(NO_3)_3$ + 1 Pb
14. synthesis 4 P + 5 O_2 → 2 P_2O_5
15. decomposition 2 Ag_2O → 4 Ag + 1 O_2
16. combustion 1 $C_6H_{12}O_6$ + 6 O_2 → 6 CO_2 + 6 H_2O
17. double replacement 1 $FeCl_3$ + 3 NaOH → 3 NaCl + 1 $Fe(OH)_3$
18. double replacement 1 $Ni(NO_3)_2$ + 2 Cs(OH) → 2 $Cs(NO_3)$ + 1 $Ni(OH)_2$
19. double replacement 2 $AlBr_3$ + 3 K_2SO_4 → 1 $Al_2(SO_4)_3$ + 6 KBr
20. synthesis 1 S_8 + 12 O_2 → 8 SO_3

Match the following:

21. c Has a strong odor	a. H_2O
22. a Turns cobalt paper pink	b. Precipitate
23. e Burns with a pop	c. Ammonia (NH_3)
24. b Formed in a double replacement reaction	d. CO_2
25. f Test to see if a metal oxide has formed.	e. Hydrogen (H_2)
26. d Turns indicator paper orange	f. File test

Several students predicted reactions and are going to perform them in the lab. List what test(s) they should perform and what they should expect to see if their predictions are correct.

27. Anna Litical decomposed H_2O_2 by using a catalyst. She predicted she would get H_2O and O_2.

cobalt paper – turn pink for H_2O
splint – relight for O_2

28. X. Perry Mental mixed $Fe(NO_3)_3$ with NaOH. He predicted a double replacement reaction.

precipitate test – a precipitate would form

29. Elek Tron mixed calcium with water. He predicted hydrogen gas.

Splint test – pop

30. Beakers Argon burned magnesium in air (oxygen). He predicted a metal oxide synthesis reaction.

file test – powdered coating

31. Sew Dium heated ammonium carbonated. She predicted ammonia, water, and carbon dioxide.

odor test – bad smell is NH_3
Cobalt paper – pink is H_2O
splint test – go out for CO_2