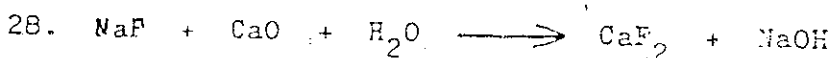
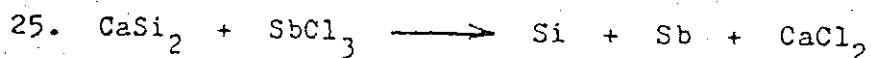
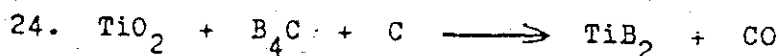
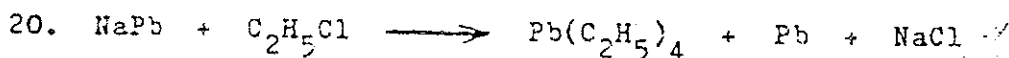
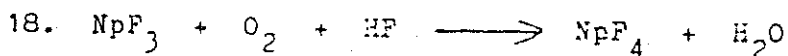
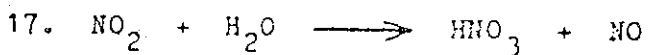
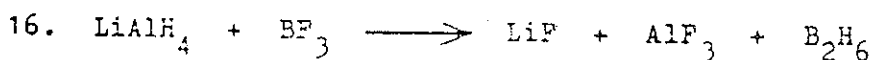
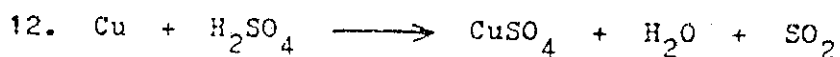
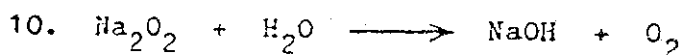
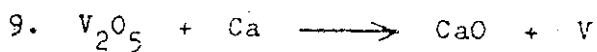
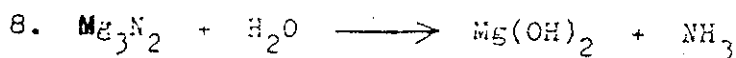
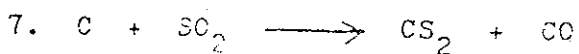
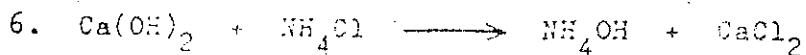
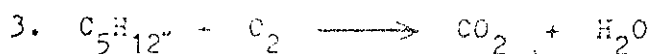
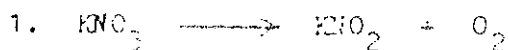


5

BALANCING EQUATIONS

Write each of the following equations, correctly balanced.



## BALANCING WORD EQUATIONS

Write and balance the equations for these reactions:

REMEMBER THAT GASES ARE DIATOMIC eg.  $Cl_2$

1. Calcium oxide + water  $\rightarrow$  Calcium hydroxide
2. Aluminium + Iron (III) oxide  $\rightarrow$  Aluminium oxide + iron
3. Silver sulphate + copper  $\rightarrow$  Copper (II) sulphate + silver
4. Barium chloride + sodium sulphite  $\rightarrow$  Sodium chloride + barium sulphite
5. Nickel (II) sulphide + hydrogen chloride  $\rightarrow$  Hydrogen sulphide + nickel (II) chloride
6. Iron (III) chloride + sodium carbonate  $\rightarrow$  Sodium chloride + iron (III) carbonate
7. Calcium hydroxide + hydrogen phosphate  $\rightarrow$  Calcium phosphate + water
8. Calcium hydroxide + ammonium sulphate  $\rightarrow$  Calcium sulphate + ammonia + water  
 $NH_3$
9. Lead (IV) sulphate + copper (II) nitrate  $\rightarrow$  Lead (IV) nitrate + copper (II) sulphate
10. Potassium nitrate  $\rightarrow$  Potassium nitrite + oxygen gas
11. Magnesium nitride + water  $\rightarrow$  Magnesium hydroxide + ammonia
12. Barium chloride + lithium oxide  $\rightarrow$  Lithium chloride + barium oxide
13. Sodium nitrate + sodium  $\rightarrow$  Sodium oxide + nitrogen gas
14. Aluminium sulphite + water  $\rightarrow$  Aluminium hydroxide + hydrogen sulphite
15. Calcium chlorate  $\rightarrow$  Calcium chloride + oxygen gas
16. Ammonium fluoride + iron (III) chloride  $\rightarrow$  Ammonium chloride + iron (III) fluoride

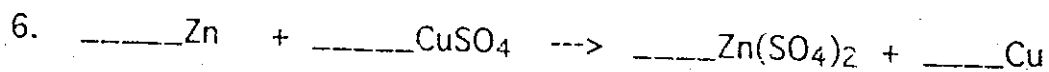
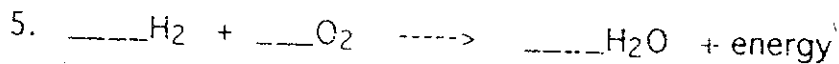
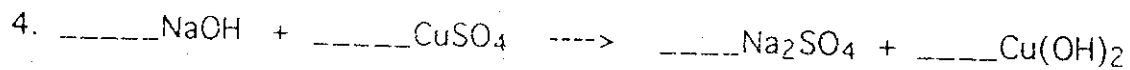
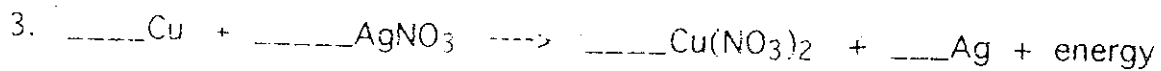
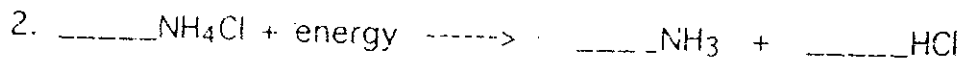
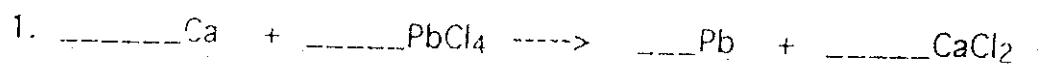
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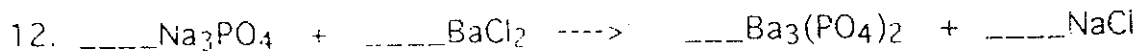
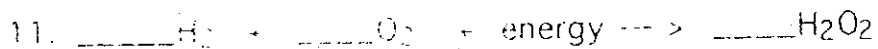
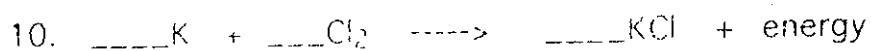
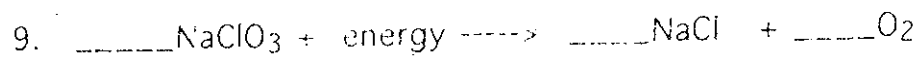
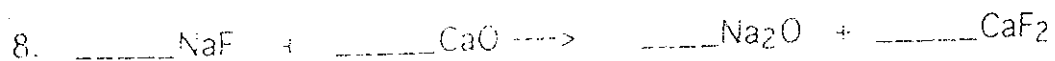
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## CLASSIFYING CHEMICAL REACTIONS

DIRECTIONS: a) Balance each equation; b) Classify each equation as a synthesis, decomposition, neutralization, single or double replacement reaction; c) If possible, state whether the reaction is endothermic or exothermic.





QUESTIONS:

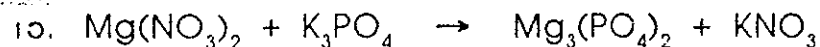
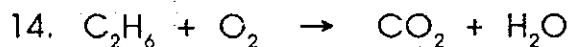
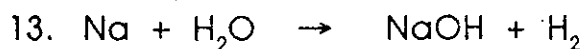
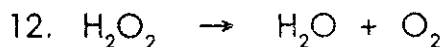
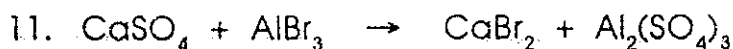
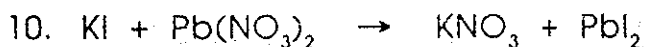
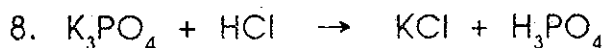
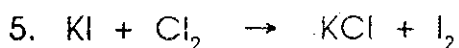
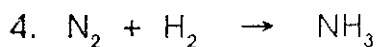
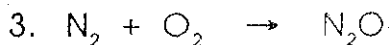
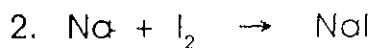
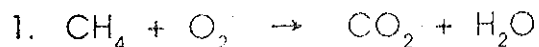
1. What do the endothermic reactions have in common?

2. What do the exothermic reactions have in common?

# BALANCING EQUATIONS

Name \_\_\_\_\_

Balance the following chemical equations.



# WORD EQUATIONS

Name \_\_\_\_\_

Write and balance the following chemical equations.

1. Hydrogen plus oxygen yield water.  
\_\_\_\_\_
2. Nitrogen plus hydrogen yield ammonia.  
\_\_\_\_\_
3. Aluminum bromide plus chlorine yield aluminum chloride and bromine.  
\_\_\_\_\_
4. Hydrochloric acid plus sodium hydroxide yield sodium chloride plus water.  
\_\_\_\_\_
5. Iron plus lead (II) sulfate react forming iron (II) sulfate plus lead.  
\_\_\_\_\_
6. Potassium chlorate when heated produces potassium chloride plus oxygen gas.  
\_\_\_\_\_
7. Sulfuric acid decomposes to form sulfur trioxide gas plus water.  
\_\_\_\_\_
8. Sodium oxide combines with water to make sodium hydroxide.  
\_\_\_\_\_
9. Potassium iodide reacts with bromine forming potassium bromide plus iodine.  
\_\_\_\_\_
10. Sodium phosphate reacts with calcium nitrate to produce sodium nitrate plus calcium phosphate.  
\_\_\_\_\_
11. Zinc reacts with iron (III) chloride yielding zinc chloride plus iron precipitate.  
\_\_\_\_\_
12. Ammonium carbonate and magnesium sulfate react to yield ammonium sulfate plus magnesium carbonate.  
\_\_\_\_\_
13. Phosphoric acid plus calcium hydroxide react forming solid calcium phosphate plus water.  
\_\_\_\_\_
14. Aluminum plus oxygen gas form aluminum oxide under certain conditions.  
\_\_\_\_\_
15. Nitrogen gas plus oxygen gas react and form dinitrogen pentoxide.  
\_\_\_\_\_