Name: _____ **Date:** _____

Balancing Equations

Balance the following chemical equations.

1. 2 AgI + ____ Na_2S → ____ Ag_2S + 2 NaI

2. ____ Na_3PO_4 + 3 HCl → 3 NaCl + ____ H_3PO_4

3. ____ Ba_3N_2 + 6 H_2O → 3 $Ba(OH)_2$ + 2 NH_3

4. ____ $TiCl_4$ + 2 H_2O → ____ TiO_2 + 4 HCl

5. 3 $CaCl_2$ + 2 Na_3PO_4 → ____ $Ca_3(PO_4)_2$ + 6 NaCl

6. 2 NaBr + ____ Cl_2 → 2 NaCl + ____ Br_2

7. ____ $Mg(OH)_2$ + 2 HCl → ____ $MgCl_2$ + 2 H_2O

8. 4 FeS + 7 O_2 → 2 Fe_2O_3 + 4 SO_2

9. ____ PCl_5 + 4 H_2O → ____ H_3PO_4 + 5 HCl

10. ____ C_2H_6O + 3 O_2 → 2 CO_2 + 3 H_2O

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Balancing Equations

Balance the following chemical equations.

1. ____ $SiCl_4(l)$ + 2 $H_2O(l)$ → ____ $SiO_2(s)$ + 4 $HCl(aq)$

2. 2 As + 6 $NaOH$ → 2 Na_3AsO_3 + 3 H_2

3. ____ Au_2S_3 + 3 H_2 → 2 Au + 3 H_2S

4. ____ V_2O_5 + 6 HCl → 2 $VOCl_3$ + 3 H_2O

5. 3 $Hg(OH)_2$ + 2 H_3PO_4 → ____ $Hg_3(PO_4)_2$ + 6 H_2O

6. ____ SiO_2 + 4 HF → ____ SiF_4 + 2 H_2O

7. ____ Zn + 2 HCl → ____ $ZnCl_2$ + ____ H_2

8. 12 ~~6~~ $HClO_4$ + ____ P_4O_{10} → 4 H_3PO_4 + ~~6~~ 3 Cl_2O_7 42 + 16 = 58

9. 2 ~~4~~ $N_2(g)$ + 5 $O_2(g)$ + 2 H_2O → 4 $HNO_3(aq)$

10. 2 NH_4NO_3 → 2 N_2 + ____ O_2 + 4 H_2O

Name: _____ **Date:** _____ 3

Balancing Equations

Balance the following chemical equations.

1. ____ CH_4 + 2 O_2 → ____ CO_2 + 2 H_2O

2. ____ Na^+ + ____ Cl^- → ____ NaCl Balanced

3. 4 Al + 3 O_2 → 2 Al_2O_3

4. ____ N_2^+ + 3 H_2 → 2 NH_3

5. 8 CO(g) + 17 H_2(g) → ____ C_8H_{18}(l) + 8 H_2O 16 + 18 = 34

6. 1 FeO_3(s) + 3 CO(g) → 1 Fe(l) + 3 CO_2(g)

7. 2 H_2SO_4 + ____ $Pb(OH)_4$ → ____ $Pb(SO_4)_2$ + 4 H_2O

8. 2 Al + 6 HCl → 2 $AlCl_3$ + 3 H_2

9. 1 $Ca_3(PO_4)_2$ + 2 H_2SO_4 → 2 $CaSO_4$ + 1 $Ca(H_2PO_4)_2$

10. ____ H_3PO_4 + 5 HCl → ____ PCl_5 + 4 H_2O

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Balancing Equations

Balance the following chemical equations.

1. 2 Fe + 3 H_2SO_4 → ___ $Fe_2(SO_4)_3$ + 3 H_2

2. 2 C_2H_6 + 5 O_2 → 6 H_2O + 4 CO_2

3. 3 KOH + ___ H_3PO_4 → ___ K_3PO_4 + 3 H_2O

4. ___ SnO_2 + 2 H_2 → ___ Sn + 2 H_2O

5. 4 NH_3 + 5 O_2 → 4 NO + 6 H_2O

6. 2 KNO_3 + ___ H_2CO_3 → ___ K_2CO_3 + 2 HNO_3

7. ___ B_2Br_6 + 6 HNO_3 → 2 $B(NO_3)_3$ + 6 HBr

8. 2 BF_3 + 3 Li_2SO_3 → ___ $B_2(SO_3)_3$ + 6 LiF

9. 4 $(NH_4)_3PO_4$ + 3 $Pb(NO_3)_4$ → ___ $Pb_3(PO_4)_4$ + 12 NH_4NO_3

10. ___ $SeCl_6$ + ___ O_2 → ___ SeO_2 + 3 Cl_2