Final Exam Chemistry CP Practice Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Given the following reaction and that the reaction is started with 12 moles of calcium, what amount in moles of aluminum is produced?

Ca + AlCl3 🡪 CaCl2 + Al

1. Predict the products for each reaction and balance accordingly. Next, classify each reaction by its type.
2. C3H8 + O2 🡪 Type:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Na + MgCl2 🡪 Type:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. SrCO3 + KOH 🡪 Type:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Write the electron configuration for each of the following:

Si4+:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

S2-: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Given the following elements, identify the number of protons, electrons, and neutrons.
2. Sr protons = electrons = neutrons =
3. P protons = electrons = neutrons =
4. A reaction is started with 5 g of NaCl. Calculate the amount of moles.
5. A sample of H2 gas contains 14 moles, calculate the mass of hydrogen.
6. Draw a Lewis Dot Structure for methane.
7. Given the following equation:

AgNO3 + K2CrO4 🡪 Ag2CrO4 + KNO3

If the reaction is started with 4 moles of silver nitrate, what amount of moles of silver chromate will be produced?

11. Calculate the molarity of an acid that is prepared in 200 mL and uses 14 g of NaCl.

12. Calculate the molarity of a solution that has a volume of 2 L and has 4 moles.

13. Calculate the pH for the following:

 A. .0023 M HCl =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 B. .00558 M NaOH =\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 C. .0001 M H2SO4 =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 D. 3.2 x 10-5 Ca(OH)2 =\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Balance the following reactions with the correct coefficients:

A) \_\_\_\_\_ Al(NO3)3 + \_\_\_\_\_ (NH4)3PO4 → \_\_\_\_\_AlPO4 + \_\_\_\_\_ NH4NO3

B) \_\_\_\_\_ AgF + \_\_\_\_\_ CaCl2 → \_\_\_\_\_ AgCl + \_\_\_\_\_ CaF2

 C) \_\_\_\_\_ ZnBr2 + \_\_\_\_\_ Pb(NO2)2 → \_\_\_\_\_ Zn(NO2)2 + \_\_\_\_\_ PbBr2

 D) \_\_\_\_\_ C2H4O2 + \_\_\_\_\_ O2 → \_\_\_\_\_ CO2 + \_\_\_\_\_ H2O

 E) \_\_\_\_\_ Ca + \_\_\_\_\_ CuF2 → \_\_\_\_\_ CaF2 + \_\_\_\_\_ Cu

 F) \_\_\_\_\_ H2SO4 + \_\_\_\_\_ B(OH)3 →\_\_\_\_\_ B2(SO4)3 + \_\_\_\_\_ H2O