FLINN SCIENTIFIC

Name_____

Post-Laboratory Review Questions

Copper(II) chloride ($CuCl_2$; 0.98 g) was dissolved in water and a piece of aluminum wire (Al; 0.56 g) was placed in the solution. The blue color due to copper(II) chloride soon faded and a red precipitate of solid copper was observed. After the blue color had disappeared completely, the leftover aluminum wire was removed from the solution and weighed. The mass of the leftover aluminum wire was 0.43 g.

1. Calculate the number of moles of (a) copper(II) chloride and (b) aluminum that reacted.

2. What is the mole ratio of copper(II) chloride to aluminum metal? Express this to the nearest whole number ratio.

3. What happened to the aluminum metal that was consumed in this reaction? Write the formula of the most probable aluminum-containing product.

4. Write a balanced chemical equation for the single replacement reaction of copper(II) chloride with aluminum.