

1(24). Circle the letter that represents the best response to each item.

Which gives an acidic solution in water?

- (A) H₂ (B) CH₄ (C) NH₃ (D) CaO (E) SO₂

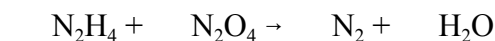
Once the following equation is balanced using no fractional coefficients



what is the sum of the coefficients?

- (A) 5 (B) 7 (C) 9 (D) 12 (E) 16

Once the following equation is balanced



how many moles of N₂ will be produced for every mole of N₂O₄ that reacts?

- (A) one (B) two (C) three (D) four

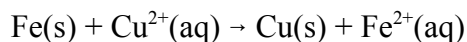
Manganese has the oxidation number of +5 in

- (A) [MnF₆]³⁻ (B) Mn₂O₇ (C) [MnO₄]²⁻ (D) [Mn(CN)₆]⁻

Chlorine has its highest oxidation number in

- (A) HCl (B) HClO (C) HClO₂ (D) HClO₃ (E) HClO₄

Which statement is true for the reaction



- (A) Cu²⁺ is oxidized (B) Cu²⁺ gains in oxidation state
(C) Cu²⁺ is reduced (D) Fe(s) is reduced

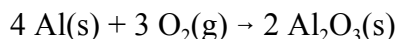
To 1.0 mol of each of the following compounds, 1.00 L of water is added. Which of the resulting solutions will exhibit the highest conductivity?

- (A) CH₃COOH (B) KCl (C) C₆H₁₂O₆ (D) CuS

Which two compounds would react by exchange (“double displacement”) upon mixing equal volumes of their dilute solutions?

- (A) NaNO₃ and CuSO₄ (B) CuCl₂ and CuBr₂
(C) BaCl₂ and CuSO₄ (D) NH₄Cl and CuSO₄

2(20). What mass of aluminum oxide is formed by the reaction of 65.3 g of aluminum and 30.2 g of oxygen and what mass of which reactant, if any, will be in excess?



3(10). In the “electric pickle” Thinkwell demo, why did the current pass and what caused the color?

4(10). Disulfur dichloride can be prepared by



Determine the percent yield if 5.234 g SCl_2 in excess NaF yields 1.191 g S_2Cl_2 .

5(36). Balance these reactions and then classify each one as either redox or as precipitation, acid-base, or gas-forming exchange (circle the response). Under each, write the net ionic equation.

