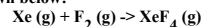


Assignment 7

Choose/Fill-in the correct answer.

1. Although Xenon is a noble gas and noble gases are known to be inert, in 1962, a sample of xenon combined with fluorine to produce the first noble-gas compound. Xenon tetrafluoride is formed by reacting Xe and F₂ gases in a nickel container at a high temperature and elevated pressures. The unbalanced chemical reaction is shown below:



The correct balanced reaction is:

- Xe (g) + F₄ (g) → XeF₄ (g)
 2 Xe (g) + 4 F₂ (g) → 2 XeF₄ (g)
 Xe (g) + F₂ (g) → XeF₂ (g)
 Xe (g) + 2 F₂ (g) → XeF₄ (g)
2. Write the net ionic reaction to the following acid-base reaction.
 $\text{HNO}_3 \text{ (aq)} + \text{KOH (aq)} \rightarrow \text{KNO}_3 \text{ (aq)} + \text{H}_2\text{O (l)}$
- H⁺ (aq) + NO₃⁻ (aq) + K⁺ (aq) + OH⁻ (aq) → K⁺ (aq) + NO₃⁻ (aq) + H⁺ (aq) + OH⁻ (aq)
 H⁺ (aq) + OH⁻ (aq) → H₂O (l)
 H⁺ (aq) + NO₃⁻ (aq) + KOH (aq) → K⁺ (aq) + NO₃⁻ (aq) + H₂O (l)
 HNO₃ (aq) + KOH (aq) → KNO₃ (aq) + H₂O (l)
3. What is the driving force of the following double-replacement reaction
 iron (II) sulfide + hydrochloric acid → ?
- No driving force; no reaction occurs
 formation of a gas
 precipitate forms
 formation of an electrolyte
4. What would happen if sodium iodide comes into contact with bromine?
- Nothing happens.
 Acid/Base neutralization reaction takes place.
 A double-replacement reaction takes place.
 A single-replacement reaction takes place.
5. Roasting chalcocite, Cu₂S, in the presence of powdered carbon extracts copper metal from this sulfide ore. The **balanced** reaction is:
 $2 \text{Cu}_2\text{S (s)} + 3 \text{O}_2 \text{ (g)} + 2 \text{C (s)} \rightarrow 2 \text{SO}_2 \text{ (g)} + 4 \text{Cu (s)} + 2 \text{CO (g)}$
 The SO₂ formed in metal extraction contributes to acid rain. How many kilograms of Copper metal is

produced for every kilogram of SO₂ that forms?

- 1.98 kg of copper
 8.14 x 10³ kg of copper
 0.992 kg of copper
 4.07 x 10³ kg of copper
6. What is the driving force of the following double-replacement reaction
 lead (II) nitrate + sulfuric acid → ?
- No driving force; no reaction occurs
 formation of a gas
 precipitate forms
 formation of an electrolyte
7. Calculate the volume (in liters) of a 0.95 M KOH solution that is needed to neutralize completely a 25.0 mL of a 0.102 M HCl solution.
 (Enter numeric answer here.)
8. A student wants to prepare 1.39 liter of a 2.72 M H₂SO₄ solution. How many milliliters of the 18 M H₂SO₄ solution does he need?
 (Enter numeric answer here.)
9. Calculate the volume (in mL) of a 0.83 M NaOH solution that is needed to neutralize completely a 25.0 mL of a 0.151 M H₃PO₄ solution.
 (Enter numeric answer here.)
10. Calculate the volume (in mL) of a 0.61 M NaOH solution that is needed to neutralize completely a 25.0 mL of a 0.195 M H₂SO₄ solution.
 (Enter numeric answer here.)

Send to obtain your score