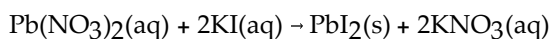


## Chapter 7 Practice Questions

- 1) When the equation,  $\_\_\text{O}_2 + \_\_\text{C}_6\text{H}_{14} \rightarrow \_\_\text{CO}_2 + \_\_\text{H}_2\text{O}$  is balanced, the coefficient of  $\text{O}_2$  is:
- A) 3
  - B) 19
  - C) 10
  - D) 38
  - E) none of the above
- 2) The mixing of sodium metal and chlorine gas would be the type of reaction known as:
- A) gas evolution
  - B) oxidation-reduction
  - C) neutralization
  - D) precipitation
  - E) none of the above
- 3) A reaction in which a substance reacts with oxygen, emitting heat and forming oxygen-containing compounds is an example of a(n):
- A) precipitation reaction.
  - B) acid-base reaction.
  - C) combustion reaction.
  - D) gas evolution reaction.
  - E) none of the above
- 4) When the equation,  $\_\_\text{N}_2 + \_\_\text{H}_2 \rightarrow \_\_\text{NH}_3$  is balanced, the coefficient of hydrogen is:
- A) 1
  - B) 2
  - C) 3
  - D) 4
  - E) none of the above
- 5) What are the coefficients for the following reaction when it is properly balanced?
- $\_\_\text{nitrogen monoxide} + \_\_\text{carbon monoxide} \rightarrow \_\_\text{nitrogen} + \_\_\text{carbon dioxide}$
- A) 1, 1, 2, 2
  - B) 2, 2, 2, 1
  - C) 2, 2, 1, 2
  - D) 2, 1, 1, 2
  - E) none of the above
- 6) Which of the following compounds is INSOLUBLE?
- A) magnesium iodide
  - B) magnesium phosphate
  - C) magnesium nitrate
  - D) magnesium sulfate
  - E) none of the above

- 7) Which of the following compounds is SOLUBLE?
- A) aluminum hydroxide
  - B) aluminum sulfide
  - C) aluminum sulfate
  - D) aluminum carbonate
  - E) none of the above
- 8) When solid NaCl is stirred into water, which of the following is NOT true?
- A) The solution will conduct electricity.
  - B) Individual sodium and chloride ions are present.
  - C) The NaCl will fail to dissociate.
  - D) The solution will taste salty.
  - E) none of the above
- 9) If you had an aqueous mixture that contained  $\text{Ag}^+$ ,  $\text{K}^+$ , and  $\text{Pb}^{2+}$  cations, how many different solids could precipitate if a chloride solution was added?
- A) 1
  - B) 2
  - C) 3
  - D) 4
  - E) no solids will precipitate
- 10) What would be the formula of the precipitate that forms when  $\text{Pb}(\text{NO}_3)_2$  (aq) and  $\text{K}_2\text{SO}_4$  (aq) are mixed?
- A)  $\text{K}(\text{NO}_3)_2$
  - B)  $\text{PbSO}_4$
  - C)  $\text{H}_2\text{O}$
  - D)  $\text{PbK}_2$
  - E) none of the above

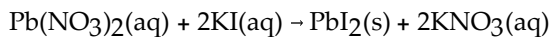
11) Considering the following precipitation reaction:



What is the correct complete ionic equation?

- A)  $\text{Pb}^{2+} + 2\text{NO}_3^- + 2\text{K}^+ + \text{I}^- \rightarrow \text{PbI}_2(\text{s}) + 2\text{K}^+ + \text{NO}_3^-$
- B)  $\text{Pb}^{2+} + 2\text{NO}_3^- + 2\text{K}^+ + 2\text{I}^- \rightarrow \text{Pb}^{2+} + 2\text{I}^- + 2\text{K}^+ + 2\text{NO}_3^-$
- C)  $\text{Pb}^{2+} + (\text{NO}_3)_2^- + 2\text{K}^+ + 2\text{I}^- \rightarrow \text{PbI}_2(\text{s}) + 2\text{K}^+ + 2\text{NO}_3^-$
- D)  $\text{Pb}^{2+} + 2\text{NO}_3^- + 2\text{K}^+ + 2\text{I}^- \rightarrow \text{PbI}_2(\text{s}) + 2\text{K}^+ + 2\text{NO}_3^-$
- E) none of the above

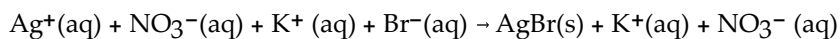
12) Considering the following precipitation reaction:



What is the correct net ionic equation?

- A)  $\text{Pb}^{2+} + 2\text{I}^- \rightarrow \text{PbI}_2(\text{s})$
- B)  $\text{Pb}^{2+} + 2\text{NO}_3^- + 2\text{K}^+ + 2\text{I}^- \rightarrow \text{PbI}_2(\text{s}) + 2\text{K}^+ + 2\text{NO}_3^-$
- C)  $2\text{NO}_3^- + 2\text{K}^+ \rightarrow 2\text{KNO}_3$
- D)  $\text{Pb}^{2+} + \text{I}_2^- \rightarrow \text{PbI}_2(\text{s})$
- E) none of the above

13) Which is a spectator ion from the following complete ionic equation:



- A)  $\text{Br}^-$
- B)  $\text{Ag}^+$
- C)  $\text{AgBr}$
- D)  $\text{K}^+$
- E) none of the above

14) What is the net ionic equation for the reaction of hydrochloric acid with potassium hydroxide?

- A)  $\text{HCl} + \text{KOH} \rightarrow \text{H}_2\text{O} + \text{KCl}$
- B)  $\text{H}^+ + \text{OH}^- \rightarrow \text{H}_2\text{O}$
- C)  $2\text{H}^+ + 2\text{Cl}^- + \text{K}^{2+} + 2\text{OH}^- \rightarrow \text{H}_2\text{O} + \text{K}^{2+} + 2\text{Cl}^-$
- D)  $\text{H}^+ + \text{Cl}^- + \text{K}^+ + \text{OH}^- \rightarrow \text{H}_2\text{O} + \text{K}^+ + \text{Cl}^-$
- E) none of the above

15) Which of the following types of compounds will NOT undergo a gas evolution reaction when acid is added?

- A) carbonates
- B) sulfides
- C) hydroxides
- D) bisulfites
- E) none of the above

16) Which of the following would NOT be a product from mixing hydrochloric acid with a solution of sodium sulfite?

- A)  $\text{NaCl}(\text{aq})$
- B)  $\text{H}_2\text{O}(\text{l})$
- C)  $\text{SO}_2(\text{g})$
- D)  $\text{H}_2(\text{g})$
- E) none of the above

17) Which of the following statements about redox reactions is FALSE?

- A) A reaction can result in either oxidation or reduction, not both.
- B) Oxidation is the loss of electrons.
- C) A reaction involving elemental oxygen is a redox reaction.
- D) Reduction is the gain of electrons.
- E) All of the above statements are true.

18) Identify the double displacement reactions among the following:

1.  $\text{KCl(aq)} + \text{AgNO}_3\text{(aq)} \rightarrow \text{AgCl(s)} + \text{KNO}_3\text{(aq)}$
2.  $\text{Na}_2\text{SO}_4\text{(aq)} + \text{BaCl}_2\text{(aq)} \rightarrow \text{BaSO}_4\text{(s)} + 2\text{NaCl(aq)}$
3.  $\text{H}_2\text{SO}_4\text{(aq)} + 2\text{NaOH(aq)} \rightarrow \text{Na}_2\text{SO}_4\text{(aq)} + 2\text{H}_2\text{O(l)}$

- A) 2 and 3 only
- B) 1 and 2 only
- C) 1 and 3 only
- D) All of 1, 2, and 3
- E) None of 1, 2, and 3

Answer Key

Testname: PRACTICEQ\_CH07

- 1) B
- 2) B
- 3) C
- 4) C
- 5) C
- 6) B
- 7) C
- 8) C
- 9) B
- 10) B
- 11) D
- 12) A
- 13) D
- 14) B
- 15) C
- 16) D
- 17) A
- 18) D