

Chapter 9 Practice Test

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. What type of ions have names ending in *-ide*?
- only cations
 - only anions
 - only metal ions
 - only gaseous ions
- _____ 2. What is the correct name for the N^{3-} ion?
- nitrate ion
 - nitrogen ion
 - nitride ion
 - nitrite ion
- _____ 3. When naming a transition metal ion that can have more than one common ionic charge, the numerical value of the charge is indicated by a _____.
- prefix
 - suffix
 - Roman numeral following the name
 - superscript after the name
- _____ 4. Aluminum is a group 3A metal. Which ion does Al typically form?
- Al^{3-}
 - Al^{3+}
 - Al^{5-}
 - Al^{5+}
- _____ 5. An *-ate* or *-ite* at the end of a compound name usually indicates that the compound contains _____.
- fewer electrons than protons
 - neutral molecules
 - only two elements
 - a polyatomic anion
- _____ 6. Which of the following compounds contains the Mn^{3+} ion?
- MnS
 - MnBr_2
 - Mn_2O_3
 - MnO
- _____ 7. How are chemical formulas of binary ionic compounds generally written?
- cation on left, anion on right
 - anion on left, cation on right
 - Roman numeral first, then anion, then cation
 - subscripts first, then ions
- _____ 8. Which of the following formulas represents an ionic compound?
- CS_2
 - BaI_2
 - N_2O_4
 - PCl_3
- _____ 9. Which element, when combined with fluorine, would most likely form an ionic compound?
- lithium
 - carbon
 - phosphorus
 - chlorine
- _____ 10. In which of the following are the formula of the ionic compound and the charge on the metal ion shown correctly?
- UCl_5, U^+
 - $\text{ThO}_2, \text{Th}^{4+}$
 - $\text{IrS}_2, \text{Ir}^{2+}$
 - NiO, Ni^+
- _____ 11. In which of the following is the name and formula given correctly?
- sodium oxide, NaO
 - barium nitride, BaN
 - cobaltous chloride, CoCl_3
 - stannic fluoride, SnF_4

- _____ 12. Which of the following compounds contains the lead(II) ion?
a. PbO
b. PbCl₄
c. Pb₂O
d. Pb₂S
- _____ 13. Which set of chemical name and chemical formula for the same compound is correct?
a. iron(II) oxide, Fe₂O₃
b. aluminum fluoride, AlF₃
c. tin(IV) bromide, SnBr₄
d. potassium chloride, K₂Cl₂
- _____ 14. What is the correct formula for potassium sulfite?
a. KHSO₃
b. KHSO₄
c. K₂SO₃
d. K₂SO₄
- _____ 15. Which set of chemical name and chemical formula for the same compound is correct?
a. ammonium sulfite, (NH₄)₂S
b. iron(III) phosphate, FePO₄
c. lithium carbonate, LiCO₃
d. magnesium dichromate, MgCrO₄
- _____ 16. Molecular compounds are usually _____.
a. composed of two or more transition elements
b. composed of positive and negative ions
c. composed of two or more nonmetallic elements
d. exceptions to the law of definite proportions
- _____ 17. Binary molecular compounds are made of two _____.
a. metallic elements
b. nonmetallic elements
c. polyatomic ions
d. cations
- _____ 18. In naming a binary molecular compound, the number of atoms of each element present in the molecule is indicated by _____.
a. Roman numerals
b. superscripts
c. prefixes
d. suffixes
- _____ 19. Which of the following formulas represents a molecular compound?
a. ZnO
b. Xe
c. SO₂
d. BeF₂
- _____ 20. Which of the following shows both the correct formula and correct name of an acid?
a. HClO₂, chloric acid
b. HNO₂, hydronitrous acid
c. H₃PO₄, phosphoric acid
d. HI, iodic acid
- _____ 21. What is the name of H₂SO₃?
a. hyposulfuric acid
b. hydrosulfuric acid
c. sulfuric acid
d. sulfurous acid
- _____ 22. When the name of an anion that is part of an acid ends in *-ite*, the acid name includes the suffix _____.
a. *-ous*
b. *-ic*
c. *-ate*
d. *-ite*
- _____ 23. What is the formula for sulfurous acid?
a. H₂SO₄
b. H₂SO₃
c. H₂SO₂
d. H₂S
- _____ 24. What is the formula for phosphoric acid?
a. H₂PO₃
b. H₃PO₄
c. HPO₂
d. HPO₄

- _____ 25. What is the formula for hydrosulfuric acid?
a. H_2S_2 c. HSO_2
b. H_2SO_2 d. H_2S
- _____ 26. Select the correct formula for sulfur hexafluoride.
a. S_2F_6 c. F_6S_2
b. F_6SO_3 d. SF_6
- _____ 27. What is the correct name for the compound CoCl_2 ?
a. cobalt(I) chlorate c. cobalt(II) chlorate
b. cobalt(I) chloride d. cobalt(II) chloride
- _____ 28. What is the correct formula for barium chlorate?
a. $\text{Ba}(\text{ClO})_2$ c. $\text{Ba}(\text{ClO}_3)_2$
b. $\text{Ba}(\text{ClO}_2)_2$ d. BaCl_2
- _____ 29. What is the correct formula for calcium dihydrogen phosphate?
a. CaH_2PO_4 c. $\text{Ca}(\text{H}_2\text{PO}_4)_2$
b. $\text{Ca}_2\text{H}_2\text{PO}_4$ d. $\text{Ca}(\text{H}_2\text{HPO}_4)_2$
- _____ 30. What does an *-ite* or *-ate* ending in a polyatomic ion mean?
a. Oxygen is in the formula. c. Nitrogen is in the formula.
b. Sulfur is in the formula. d. Bromine is in the formula.
- _____ 31. Which of the following is the correct name for N_2O_5 ?
a. nitrous oxide c. nitrogen dioxide
b. dinitrogen pentoxide d. nitrate oxide
- _____ 32. What is the correct name for $\text{Sn}_3(\text{PO}_4)_2$?
a. tritin diphosphate c. tin(III) phosphate
b. tin(II) phosphate d. tin(IV) phosphate

Short Answer

33. What is the formula for Iron (III) Hypochlorite?
34. What is the formula for Nickel Nitrate?
35. What is the name of CrCO_3 ?
36. What is the name of the following compound? CaCrO_4
37. What is the name of KCN?

Numeric Response

38. How many iron(II) ions combine with oxygen to form iron(II) oxide?

Chapter 9 Practice Test Answer Section

MATCHING

MULTIPLE CHOICE

- | | | | |
|----------------------------------|-----------------------|---------|-------------------------------|
| 1. ANS: B
OBJ: 9.1.1 | PTS: 1 | DIF: L1 | REF: p. 254 |
| 2. ANS: C
OBJ: 9.1.1 | PTS: 1
STA: Ch.3 | DIF: L1 | REF: p. 254 |
| 3. ANS: C
OBJ: 9.1.1 | PTS: 1 | DIF: L1 | REF: p. 254 p. 255 |
| 4. ANS: B
OBJ: 9.1.1 | PTS: 1 | DIF: L1 | REF: p. 253 |
| 5. ANS: D
OBJ: 9.1.2 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 257 |
| 6. ANS: C
OBJ: 9.2.1 | PTS: 1
STA: Ch.2 | DIF: L1 | REF: p. 262 p. 263 |
| 7. ANS: A
OBJ: 9.2.1 | PTS: 1
STA: Ch.3 | DIF: L1 | REF: p. 261 |
| 8. ANS: B
OBJ: 9.2.1 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 262 |
| 9. ANS: A
OBJ: 9.2.1 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 253 p. 254 p. 262 |
| 10. ANS: B
OBJ: 9.2.1 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 262 |
| 11. ANS: D
OBJ: 9.2.1 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 262 p. 263 |
| 12. ANS: A
OBJ: 9.2.1 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 262 p. 263 |
| 13. ANS: C
OBJ: 9.2.1 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 261 p. 262 |
| 14. ANS: C
OBJ: 9.2.2 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 257 p. 261 p. 262 |
| 15. ANS: B
OBJ: 9.1.3 9.2.2 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 264 p. 265 p. 266 |
| 16. ANS: C
OBJ: 9.3.1 9.3.2 | PTS: 1
STA: Ch.2.a | DIF: L1 | REF: p. 268 |
| 17. ANS: B
OBJ: 9.3.2 | PTS: 1
STA: Ch.2.a | DIF: L1 | REF: p. 268 |
| 18. ANS: C
OBJ: 9.3.2 | PTS: 1
STA: Ch.2 | DIF: L1 | REF: p. 269 |
| 19. ANS: C
OBJ: 9.3.2 | PTS: 1
STA: Ch.2 | DIF: L2 | REF: p. 269 |
| 20. ANS: C
OBJ: 9.4.1 | PTS: 1
STA: Ch.5 | DIF: L2 | REF: p. 272 |

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|-----|--------------------------------------|------------------------------|----------------------|-------------------------------|
| 21. | ANS: D
OBJ: 9.4.1 | PTS: 1
STA: Ch.5 | DIF: L2 | REF: p. 272 |
| 22. | ANS: A
OBJ: 9.4.1 | PTS: 1
STA: Ch.5.a | DIF: L2 | REF: p. 272 |
| 23. | ANS: B
OBJ: 9.4.2 | PTS: 1
STA: Ch.5 | DIF: L2 | REF: p. 272 |
| 24. | ANS: B
OBJ: 9.4.2 | PTS: 1
STA: Ch.5 | DIF: L2 | REF: p. 272 |
| 25. | ANS: D
OBJ: 9.4.2 | PTS: 1
STA: Ch.5 | DIF: L3 | REF: p. 272 |
| 26. | ANS: D
OBJ: 9.3.2 9.5.2 | PTS: 1
STA: Ch.5 | DIF: L2 | REF: p. 270 p. 278 |
| 27. | ANS: D
OBJ: 9.2.1 9.5.2 | PTS: 1
STA: Ch.5 | DIF: L2 | REF: p. 261 p. 262 p. 277 |
| 28. | ANS: C
OBJ: 9.2.2 9.2.3 9.5.2 | PTS: 1 | DIF: L3
STA: Ch.5 | REF: p. 257 p. 264 |
| 29. | ANS: C
OBJ: 9.2.2 9.2.3 9.5.2 | PTS: 1 | DIF: L3
STA: Ch.5 | REF: p. 257 p. 264 |
| 30. | ANS: A
OBJ: 9.1.3 9.5.3 | PTS: 1
STA: Ch.2 | DIF: L1 | REF: p. 257 p. 278 |
| 31. | ANS: B
OBJ: 9.3.2 9.5.3 | PTS: 1
STA: Ch.2.b Ch.5 | DIF: L2 | REF: p. 269 p. 277 |
| 32. | ANS: B
OBJ: 9.5.3 | PTS: 1
STA: Ch.2.b Ch.5 | DIF: L3 | REF: p. 264 p. 277 |

SHORT ANSWER

33. ANS:
Fe(ClO)₃
- PTS: 1
34. ANS:
Ni(NO₃)₂
- PTS: 1
35. ANS:
Chromium (II) Carbonate
- PTS: 1
36. ANS:
Calcium Chromate
- PTS: 1

37. ANS:
Potassium Cyanide

PTS: 1

NUMERIC RESPONSE

38. ANS: 1

PTS: 1

OBJ: 9.1.1 | 9.2.1

DIF: L2

STA: Ch.2

REF: p. 257 | p. 261 | p. 264