

Chapter 9 Practice Test

***You need your own calculator for the test.**

*** You will have blast from the past question over ch 1,2,4,25.**

Matching

Match each item with the correct statement below.

- | | |
|--------------------------------|--------------------|
| a. monatomic ion | f. cation |
| b. acid | g. binary compound |
| c. base | h. anion |
| d. law of definite proportions | i. polyatomic ion |
| e. law of multiple proportions | |

- _____ 1. atom or group of atoms having a negative charge
_____ 2. atom or group of atoms having a positive charge
_____ 3. tightly-bound group of atoms that behaves as a unit and carries a net charge
_____ 4. produces a hydrogen ion when dissolved in water
_____ 5. produces a hydroxide ion when dissolved in water

Multiple Choice

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

- _____ 6. What type of ions have names ending in *-ide*?
a. only cations
b. only anions
c. only metal ions
d. only gaseous ions
- _____ 7. What is the correct name for the N^{3-} ion?
a. nitrate ion
b. nitrogen ion
c. nitride ion
d. nitrite ion
- _____ 8. 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 _____.
a. prefix
b. suffix
c. Roman numeral following the name
d. superscript after the name
- _____ 9. Aluminum is a group 3A metal. Which ion does Al typically form?
a. Al^{3-}
b. Al^{3+}
c. Al^{5-}
d. Al^{5+}
- _____ 10. An *-ate* or *-ite* at the end of a compound name usually indicates that the compound contains _____.
a. fewer electrons than protons
b. neutral molecules
c. only two elements
d. a polyatomic anion
- _____ 11. Which of the following compounds contains the Mn^{3+} ion?
a. MnS
b. $MnBr_2$
c. Mn_2O_3
d. MnO

- _____ 12. 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
- _____ 13. Which of the following formulas represents an ionic compound?
- CS_2
 - BaI_2
 - N_2O_4
 - PCl_3
- _____ 14. Which element, when combined with fluorine, would most likely form an ionic compound?
- lithium
 - carbon
 - phosphorus
 - chlorine
- _____ 15. 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^+
- _____ 16. 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
- _____ 17. Which of the following compounds contains the lead(II) ion?
- PbO
 - PbCl_4
 - Pb_2O
 - Pb_2S
- _____ 18. Which set of chemical name and chemical formula for the same compound is correct?
- iron(II) oxide, Fe_2O_3
 - aluminum fluorate, AlF_3
 - tin(IV) bromide, SnBr_4
 - potassium chloride, K_2Cl_2
- _____ 19. What is the correct formula for potassium sulfite?
- KHSO_3
 - KHSO_4
 - K_2SO_3
 - K_2SO_4
- _____ 20. Which set of chemical name and chemical formula for the same compound is correct?
- ammonium sulfite, $(\text{NH}_4)_2\text{S}$
 - iron(III) phosphate, FePO_4
 - lithium carbonate, LiCO_3
 - magnesium dichromate, MgCrO_4
- _____ 21. Molecular compounds are usually _____.
 - composed of two or more transition elements
 - composed of positive and negative ions
 - composed of two or more nonmetallic elements
 - exceptions to the law of definite proportions
- _____ 22. Binary molecular compounds are made of two _____.
 - metallic elements
 - nonmetallic elements
 - polyatomic ions
 - cations
- _____ 23. In naming a binary molecular compound, the number of atoms of each element present in the molecule is indicated by _____.
 - Roman numerals
 - superscripts
 - prefixes
 - suffixes

Name: _____

ID: A

- _____ 37. What is the correct name for $\text{Sn}_3(\text{PO}_4)_2$?
- a. tritin diphosphate
 - b. tin(II) phosphate
 - c. tin(III) phosphate
 - d. tin(IV) phosphate

Short Answer

- 38. What is the formula for Iron (III) Hypochlorite?
- 39. What is the formula for Nickel Nitrate?
- 40. What is the name of CrCO_3 ?
- 41. What is the name of the following compound? CaCrO_4
- 42. What is the name of KCN?

Numeric Response

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

Chapter 9 Practice Test Answer Section

MATCHING

- | | | | |
|------------|-------------|---------|-------------|
| 1. ANS: H | PTS: 1 | DIF: L1 | REF: p. 254 |
| OBJ: 9.1.1 | STA: Ch.5.a | | |
| 2. ANS: F | PTS: 1 | DIF: L1 | REF: p. 253 |
| OBJ: 9.1.1 | STA: Ch.5.a | | |
| 3. ANS: I | PTS: 1 | DIF: L1 | REF: p. 257 |
| OBJ: 9.1.2 | STA: Ch.5.a | | |
| 4. ANS: B | PTS: 1 | DIF: L1 | REF: p. 271 |
| OBJ: 9.4.1 | STA: Ch.5.a | | |
| 5. ANS: C | PTS: 1 | DIF: L1 | REF: p. 273 |
| OBJ: 9.4.3 | STA: Ch.5.a | | |

MULTIPLE CHOICE

- | | | | |
|------------|-----------|---------|-------------------------------|
| 6. ANS: B | PTS: 1 | DIF: L1 | REF: p. 254 |
| OBJ: 9.1.1 | | | |
| 7. ANS: C | PTS: 1 | DIF: L1 | REF: p. 254 |
| OBJ: 9.1.1 | STA: Ch.3 | | |
| 8. ANS: C | PTS: 1 | DIF: L1 | REF: p. 254 p. 255 |
| OBJ: 9.1.1 | | | |
| 9. ANS: B | PTS: 1 | DIF: L1 | REF: p. 253 |
| OBJ: 9.1.1 | | | |
| 10. ANS: D | PTS: 1 | DIF: L2 | REF: p. 257 |
| OBJ: 9.1.2 | STA: Ch.2 | | |
| 11. ANS: C | PTS: 1 | DIF: L1 | REF: p. 262 p. 263 |
| OBJ: 9.2.1 | STA: Ch.2 | | |
| 12. ANS: A | PTS: 1 | DIF: L1 | REF: p. 261 |
| OBJ: 9.2.1 | STA: Ch.3 | | |
| 13. ANS: B | PTS: 1 | DIF: L2 | REF: p. 262 |
| OBJ: 9.2.1 | STA: Ch.2 | | |
| 14. ANS: A | PTS: 1 | DIF: L2 | REF: p. 253 p. 254 p. 262 |
| OBJ: 9.2.1 | STA: Ch.2 | | |
| 15. ANS: B | PTS: 1 | DIF: L2 | REF: p. 262 |
| OBJ: 9.2.1 | STA: Ch.2 | | |
| 16. ANS: D | PTS: 1 | DIF: L2 | REF: p. 262 p. 263 |
| OBJ: 9.2.1 | STA: Ch.2 | | |
| 17. ANS: A | PTS: 1 | DIF: L2 | REF: p. 262 p. 263 |
| OBJ: 9.2.1 | STA: Ch.2 | | |
| 18. ANS: C | PTS: 1 | DIF: L2 | REF: p. 261 p. 262 |
| OBJ: 9.2.1 | STA: Ch.2 | | |
| 19. ANS: C | PTS: 1 | DIF: L2 | REF: p. 257 p. 261 p. 262 |
| OBJ: 9.2.2 | STA: Ch.2 | | |

20.	ANS: B OBJ: 9.1.3 9.2.2	PTS: 1 STA: Ch.2	DIF: L2	REF: p. 264 p. 265 p. 266
21.	ANS: C OBJ: 9.3.1 9.3.2	PTS: 1 STA: Ch.2.a	DIF: L1	REF: p. 268
22.	ANS: B OBJ: 9.3.2	PTS: 1 STA: Ch.2.a	DIF: L1	REF: p. 268
23.	ANS: C OBJ: 9.3.2	PTS: 1 STA: Ch.2	DIF: L1	REF: p. 269
24.	ANS: C OBJ: 9.3.2	PTS: 1 STA: Ch.2	DIF: L2	REF: p. 269
25.	ANS: C OBJ: 9.4.1	PTS: 1 STA: Ch.5	DIF: L2	REF: p. 272
26.	ANS: D OBJ: 9.4.1	PTS: 1 STA: Ch.5	DIF: L2	REF: p. 272
27.	ANS: A OBJ: 9.4.1	PTS: 1 STA: Ch.5.a	DIF: L2	REF: p. 272
28.	ANS: B OBJ: 9.4.2	PTS: 1 STA: Ch.5	DIF: L2	REF: p. 272
29.	ANS: B OBJ: 9.4.2	PTS: 1 STA: Ch.5	DIF: L2	REF: p. 272
30.	ANS: D OBJ: 9.4.2	PTS: 1 STA: Ch.5	DIF: L3	REF: p. 272
31.	ANS: D OBJ: 9.3.2 9.5.2	PTS: 1 STA: Ch.5	DIF: L2	REF: p. 270 p. 278
32.	ANS: D OBJ: 9.2.1 9.5.2	PTS: 1 STA: Ch.5	DIF: L2	REF: p. 261 p. 262 p. 277
33.	ANS: C OBJ: 9.2.2 9.2.3 9.5.2	PTS: 1 STA: Ch.5	DIF: L3	REF: p. 257 p. 264
34.	ANS: C OBJ: 9.2.2 9.2.3 9.5.2	PTS: 1 STA: Ch.5	DIF: L3	REF: p. 257 p. 264
35.	ANS: A OBJ: 9.1.3 9.5.3	PTS: 1 STA: Ch.2	DIF: L1	REF: p. 257 p. 278
36.	ANS: B OBJ: 9.3.2 9.5.3	PTS: 1 STA: Ch.2.b Ch.5	DIF: L2	REF: p. 269 p. 277
37.	ANS: B OBJ: 9.5.3	PTS: 1 STA: Ch.2.b Ch.5	DIF: L3	REF: p. 264 p. 277

SHORT ANSWER

38. ANS:
Fe(ClO)₃
- PTS: 1
39. ANS:
Ni(NO₃)₂
- PTS: 1

40. ANS:
Chromium (II) Carbonate

PTS: 1

41. ANS:
Calcium Chromate

PTS: 1

42. ANS:
Potassium Cyanide

PTS: 1

NUMERIC RESPONSE

43. ANS: 1

PTS: 1

OBJ: 9.1.1 | 9.2.1

DIF: L2

STA: Ch.2

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