

Quiz 2 - Nomenclature

KEY

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) Which one of the following compounds contains an ion with a 3+ charge?
 A) CuCl B) Na₂O C) KCl D) MgCl₂ E) FeCl₃ 1) _____
- 2) What is the correct formula for the oxide ion?
 A) O²⁺ B) O⁺ C) O³⁺ D) O E) O²⁻ 2) _____
- 3) The compound MgCl₂ is named _____.
A) magnesium chloride B) magnesium dichloride
 C) magnesium chlorine D) magnesium (II) chloride 3) _____
- 4) Which one of the following elements forms two or more ions with different ionic charges?
 A) Zn B) Al C) Cd D) Ag E) Mn 4) _____
- 5) Which of the following polyatomic ions has a positive charge?
 A) bicarbonate B) ammonium C) cyanide D) hydroxide 5) _____
- 6) Which of the following polyatomic ions has a 3- ionic charge?
A) phosphate B) hydroxide C) sulfate D) nitrate 6) _____
- 7) What is the formula of the nitride ion?
 A) NO₃²⁻ B) NO₃³⁻ C) NO₂⁻ D) N³⁻ E) NO₃⁻ 7) _____
- 8) The name of the HSO₄⁻ ion is _____.
A) hydrogen sulfate or bisulfate B) hydrogen sulfite
 C) sulfate D) bisulfite 8) _____
- 9) What is the formula of the ionic compound that contains sodium and phosphate ions?
 A) Na₃P B) Na₃PO₄ C) NaPO₄ D) Na₃PO₃ E) Na₂PO₃ 9) _____
- 10) Fe₂(SO₄)₃ is called _____.
 A) diiron trisulfate B) iron (II) sulfate C) iron sulfate D) iron (III) sulfate 10) _____
- 11) What is the formula for aluminum nitrite?
 A) AlNO₃ B) Al₂(NO₂)₂ C) Al(NO₂)₃ D) Al₂(NO₃)₃ 11) _____
- 12) The correct formula for copper (II) chloride is _____.
 A) CuCl₄ B) Cu₂Cl₂ C) Cu₂Cl₄ D) CuCl₂ E) Cu₂Cl 12) _____
- 13) The correct formula for the ionic compound formed between chromic and sulfate ions is:
 A) Cr₃(SO₄)₂ B) (Cr)₂(SO₄)₃ C) Cr₂(SO₄)₃ D) (Cr₂)(SO₄)₃ 13) _____

- 14) The correct name for FeS is _____.
 A) iron(III) sulfite B) ferrous sulfite C) ferric sulfide D) iron(II) sulfide 14) _____
- 15) The correct name for SnCl₂ is _____.
 A) antimony(II) chloride B) tin(II) chloride
 C) antimony dichloride D) tin chloride 15) _____
- 16) Ammonium carbonate has the formula shown below.
 A) NH₄(CO₃)₂ B) NH₄CO₃ C) (NH₄)₂(CO₃)₂ D) (NH₄)₂CO₃ 16) _____
- 17) Ammonium hydrogen phosphate has the following formula.
 A) NH₄PO₄ B) (NH₄)₃PO₄ C) NH₄HPO₄ D) (NH₄)₂HPO₄ 17) _____
- 18) Calcium bicarbonate has the following formula.
A) Ca(HCO₃)₂ B) CaCO₃ C) CaHCO₃ D) Ca₂HCO₃ 18) _____
- 19) The formula for the compound formed between calcium and sulfate ion is which of these?
A) CaSO₄ B) Ca₂(SO₄)₂ C) (Ca)₂SO₄ D) Ca(SO₄)₂ 19) _____
- 20) Iron(III) sulfite has this formula.
 A) (Fe)₂SO₃ B) Fe₂SO₃ C) Fe(SO₃)₃ D) Fe₂(SO₃)₃ 20) _____
- 21) Lead(II) iodide has the following formula.
A) PbI₂ B) Pb₂I C) Pb₂I₃ D) Pb₂I₂ E) PbI 21) _____
- 22) The correct name for CaSO₄ is _____.
 A) calcium sulfide B) sulfate calcium C) calcium sulfate D) calcium sulfite 22) _____
- 23) Give the correct name for FePO₄.
 A) iron(II) phosphate B) iron phosphate
 C) iron phosphite D) iron(III) phosphate 23) _____
- 24) Potassium phosphide has the following formula.
 A) KP₃ B) K₃PO₄ C) K₃P D) KPO₄ E) KP 24) _____
- 25) The correct formula for dinitrogen trioxide is _____.
 A) N₂O B) N₂O₂ C) N₃O₂ D) N₂O₃ E) NO₃ 25) _____
- 26) The formula for sulfur dichloride is _____.
A) SCl₂ B) S₄Cl₂ C) S₂Cl₂ D) SCl E) S₂Cl 26) _____
- 27) The correct name for CS₂ is _____.
 A) monocarbon disulfide B) carbon disulfide
 C) monocarbon sulfide D) carbon sulfide 27) _____

28) What is the name of the alkyl group $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-}$?

A) ethyl

B) ethane

C) isopropyl

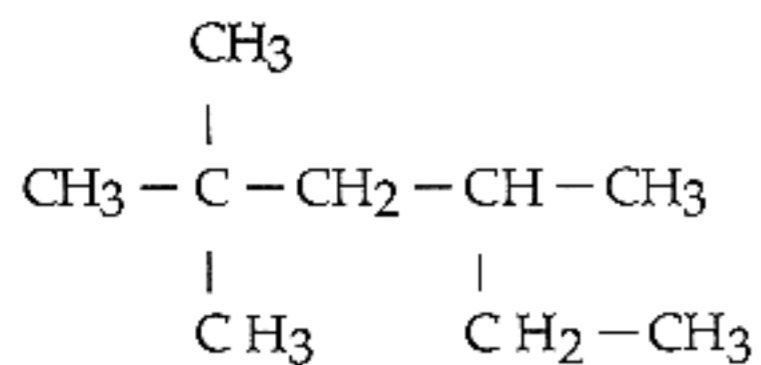
D) propyl

E) propane

28) _____

29) What is the IUPAC name of this alkane?

29) _____



A) 2,2,4-trimethylhexane

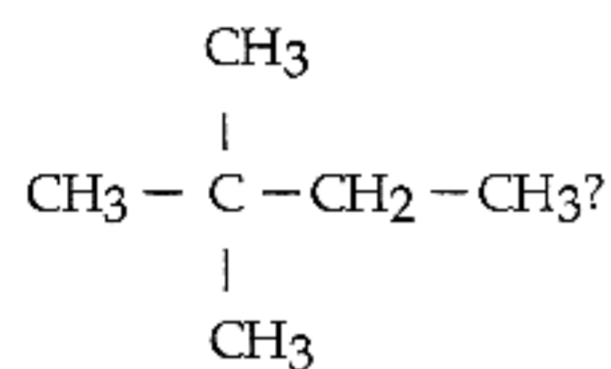
C) 3,5,5-trimethylhexane

B) 2-ethyl-4,4-dimethylpentane

D) 2-ethyl-2,2-dimethylpentane

30) What is the name of the following compound:

30) _____



A) 2-dimethylbutane

C) 2,2-dimethylbutane

B) dimethylbutane

D) 3,3-dimethylbutane

31) The functional group contained in the compound $\text{CH}_3\text{CH}_2\text{COOH}$ is a(n) _____.

31) _____

A) carboxylic acid

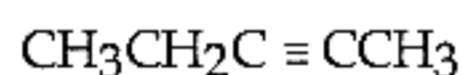
B) aldehyde

C) alcohol

D) ketone

32) What is the name of the following compound:

32) _____



A) 3-pentyne

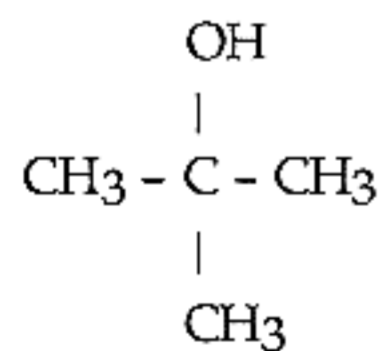
C) 2-pentyne

B) pentyne

D) 1-methylbutyne

33) What is the name of the following compound:

33) _____



A) 2-methyl-2-propanol

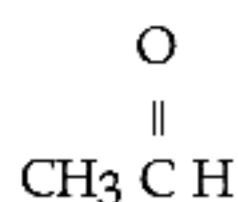
C) 2-propanol

B) butanol

D) 2-methylbutanol

34) What is the name of the following compound:

34) _____

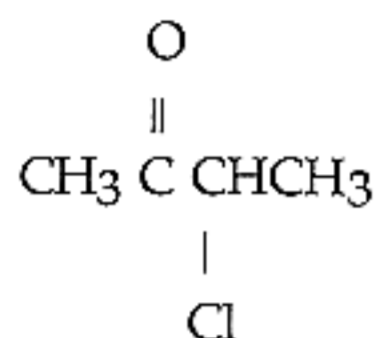


- A) 1-ethanaldehyde
C) methanal

- B) 1-ethanone
D) ethanal

35) What is the name of the following compound:

35) _____



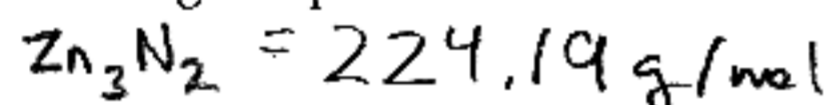
- A) chloro propyl ketone
C) 2-chloro-3-butanone

- B) 3-chloro-2-butanone
D) 2-chloro-3-ketone butane

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

36) In a 1.987 mg sample of zinc nitride there are how many nitrogen atoms?

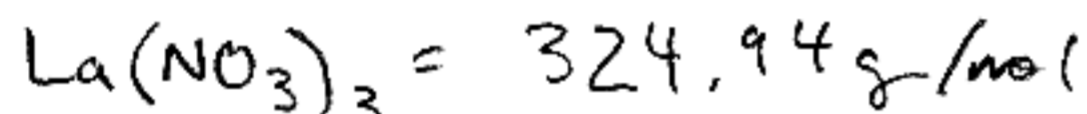
36) _____



$$1.987 \text{ mg} \times \frac{10^{-3} \text{ g}}{\text{mg}} \times \frac{\text{mol Zn}_3\text{N}_2}{224.19 \text{ g}} \times \frac{2 \text{ mol N}}{1 \text{ mol Zn}_3\text{N}_2} \times \frac{6.022 \times 10^{23} \text{ ATOMS}}{\text{mol N}} = 1.067 \times 10^{19} \text{ ATOMS}$$

37) How many μmol s of nitrogen are in a 0.09734 mg sample of lanthanum(III) nitrate?

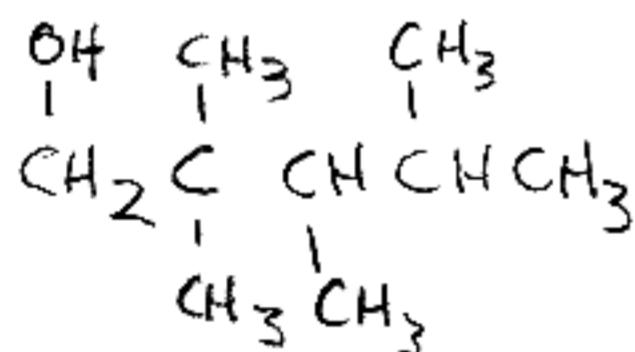
37) _____



$$0.09734 \text{ mg} \times \frac{10^{-3} \text{ g}}{\text{mg}} \times \frac{\text{mol La}(\text{NO}_3)_3}{324.94 \text{ g}} \times \frac{3 \text{ mol N}}{1 \text{ mol La}(\text{NO}_3)_3} \times \frac{\mu\text{mol}}{10^{-6} \text{ mol}} = 0.8987 \mu\text{mol N}$$

38) Draw the structure of 2,2,3,4-tetramethyl-1-pentanol.

38) _____



39) Draw the structure of 2,4-dimethyl-5-propyldecanoic acid.

39) _____

