

Chem 167 Quiz 3 Answer Key PDF

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What is the charge of an electron?

- +1
- 0
- 1
- +2

Which of the following are properties of metals?

- High electrical conductivity
- brittle
- Malleable
- Poor thermal conductivity

Explain why noble gases are generally unreactive.

Which element is a halogen?

- Oxygen
- Chlorine
- Sodium
- Argon

Which of the following are examples of physical changes?

- Melting of ice
- RustING of iron
- Dissolving sugar in water
- BurnING of wood

Describe the difference between a homogeneous and a heterogeneous mixture.

What is the primary component of air?

- Oxygen
- Carbon dioxide
- Nitrogen
- Argon

Which of the following are characteristics of ionic compounds?

- High melting points
- Conduct electricity when dissolved in water
- Low boiling points
- FormED by sharing electrons

Explain the significance of Avogadro's number in chemistry.

Which gas law relates pressure and volume at constant temperature?

- Charles's Law
- Boyles's Law
- Avogadro's Law
- Dalton's Law

Which of the following are true about acids?

- They taste sour
- They turn blue litmus paper red
- They have a pH greater than 7
- They react with bases to form water and salt

Discuss the role of catalysts in chemical reactions and provide an example.

Which type of intermolecular force is the strongest?

- London dispersion forces
- Dipole-dipole interactions
- Hydrogen bonding
- Van der Waals forces

Which of the following are true for endothermic reactions?

- Absorb heat from the surroundings
- Have a positive ΔH
- Release heat to the surroundings
- Have a negative ΔH

Explain how the periodic table is organized and how this organization helps predict the properties of elements.

Which of the following best describes a buffer solution?

- A solution that changes pH easily
- A solution that resists changes in pH
- A solution with a pH of 7
- A solution that is highly acidic

Which of the following are examples of chemical changes?

- BurnING of wood
- Melting of ice
- RustING of iron
- Boiling of water

Describe the process of electron configuration and its importance in understanding chemical behavior.

Which of the following best describes an amphoteric substance?

- A substance that is only acidic
- A substance that is only basic
- A substance that can act as both an acid and a base
- A substance that is neither acidic nor basic

Which of the following are colligative properties?

- Boiling point elevation
- Freezing point depression
- Vapor pressure lowering
- Density

Explain the concept of molarity and how it is used to express the concentration of a solution.

Which of the following best describes a polar covalent bond?

- Electrons are shared equally between atoms
- Electrons are transferred from one atom to another
- Electrons are shared unequally between atoms
- Electrons are not involved in bonding

Which of the following factors can increase the solubility of a solid in a liquid?

- Increasing temperature
- Decreasing temperature
- Stirring the solution
- Increasing pressure

Discuss the significance of the law of conservation of mass in chemical reactions.

Which of the following best describes a covalent network solid?

- A solid with metallic bonds
- A solid with ionic bonds
- A solid with a continuous network of covalent bonds
- A solid with weak intermolecular forces

Which of the following are true about bases?

- They taste bitter
- They turn red litmus paper blue
- They have a pH less than 7
- They feel slippery

Explain how the concept of electronegativity is used to predict the polarity of a molecule.