

Name: _____

Date: _____

Complete the passage by filling in the blank with the most appropriate sentence.

1. Feudalism in its various forms usually emerged from the decentralization of an empire. In the ninth-century Carolingian Empire, bureaucratic infrastructure was insufficient to support cavalry without allocating land to mounted troops. ---- These acquired powers significantly diminished unitary power in such empires. However, once monarchies re-established the infrastructure needed to maintain centralized authority, feudalism began to yield to the new power structure and eventually disappeared. In the classic system, relationships among lords, vassals, and fiefs were based on reciprocal legal and military obligations, including service in exchange for land and protection.

- A) The classic definition describes reciprocal legal and military obligations among warrior nobles through the central concepts of lords, vassals, and fiefs.
- B) These royal courts then imposed a uniform legal code on every provincial official, ensuring that the newly described administrative network remained centralized.
- C) Mounted soldiers began to secure a system of hereditary rule over their allocated land, and their power encompassed the social, political, judicial, and economic spheres.
- D) Mounted soldiers promptly returned all allocated land and surrendered judicial authority, so their service strengthened rather than diminished each empire's unitary power.
- E) Enlightenment authors later mocked medieval customs and projected their negative characteristics onto the French monarchy as a means of political gain.

2. A chemical bond is the association of atoms or ions to form molecules, crystals, and other structures. It can result from electrostatic force between oppositely charged ions, electron sharing, or a combination of these effects. Opposite charges attract, so negatively charged electrons and positively charged protons attract one another; electrons shared between two nuclei are attracted to both. Constructive quantum-mechanical wavefunction interference also stabilizes the paired nuclei. ---- At that optimal distance, atoms in molecules, crystals, metals, and other forms of matter are held together by chemical bonds, which determine the structure and properties of matter. Quantum theory describes all bonds, while simplified rules help chemists predict their strength, directionality, and polarity.

- A) The molecular formula of ethanol may be written in several forms depending on whether a discussion emphasizes geometry, functional groups, or atomic composition.
- B) These spectroscopic measurements establish the exact position of every electron and proton before any theoretical description of chemical bonding is attempted.
- C) Once bonded, atomic nuclei collapse into the same point because attractive forces completely eliminate repulsion and make a stable separation physically impossible.
- D) Chemical bonds are commonly classified as strong primary bonds or weak secondary interactions according to their characteristic strengths and behavior.
- E) Bonded nuclei maintain an optimal distance, called the bond distance, that balances attractive and repulsive effects, as explained quantitatively by quantum theory.