Name _____

Guardians of the Digital Realm: Blockchain's Battle Against Hacking

Short Answer Key

1. (Sample answer) Decentralization in blockchain means that there is no single central authority or control point. Instead, transactions and data are distributed across a network of computers. This decentralization enhances security because there is no central target for attacks or manipulation.
2. (Sample answer) Blockchain's transparency ensures that all transactions are visible to participants. This transparency discourages fraudulent activities, as any unauthorized changes to the blockchain would be immediately noticeable to the network.
3. (Sample answer) A 51% attack is when a single entity gains control of more than 51% of a Proof of Work blockchain's computing power. This enables the attacker to potentially manipulate transactions and disrupt the network. Executing such an attack is challenging and costly due to the immense computational power required.
4. (Sample answer) Smart contracts are self-executing contracts with terms written into code. They can have vulnerabilities if the code contains errors or if it does not account for all possible scenarios. These vulnerabilities can lead to unintended consequences. Mitigating smart contract vulnerabilities involves thorough code review and testing.
5. (Sample answer) Users can enhance blockchain security by securing their private keys in safe locations, using reputable wallets and exchanges, enabling two-factor authentication, staying vigilant against phishing attempts, and keeping their software up to date.