Name _____

Unlocking Secrets: The Connection Between Prime Numbers and Cryptography

Short Answer Key

1. RSA encryption is a method of encrypting messages using large prime numbers. It relies on the difficulty of factoring the product of two large prime numbers to ensure secure communication.
2. Public and private keys in RSA encryption are generated by choosing two large prime numbers, multiplying them together to get a composite number, and then computing additional parameters based on these prime factors.
3. Factoring the product of two large prime numbers is considered difficult because it requires a significant amount of time and computational power, especially as the size of the numbers increases.
4. RSA encryption ensures secure communication by using large prime numbers to create encryption keys that are extremely difficult to crack without the corresponding decryption keys.
5. Prime numbers play a crucial role in various cryptographic algorithms beyond RSA encryption, providing the foundation for secure communication and data protection.