

Name \_\_\_\_\_

## Unlocking Secrets: The Connection Between Prime Numbers and Cryptography

### Multiple Choice Questions

1. What are prime numbers?
  - a) Whole numbers less than 1
  - b) Numbers divisible by 3
  - c) Numbers with exactly two factors
  - d) Fractions
  
2. Which encryption method relies on the difficulty of factoring large prime numbers?
  - a) RSA encryption
  - b) Vigenère cipher
  - c) Caesar cipher
  - d) Substitution cipher
  
3. What is the purpose of RSA encryption?
  - a) To encode messages in binary
  - b) To encrypt messages using a secret key
  - c) To secure communication using large prime numbers
  - d) To decipher encrypted messages
  
4. What role do prime numbers play in RSA encryption?
  - a) They determine the length of the encryption key
  - b) They are used to generate the public and private keys
  - c) They encrypt the message
  - d) They decrypt the message
  
5. Why is factoring the product of two large prime numbers difficult?
  - a) Because computers are slow
  - b) Because the numbers are too small
  - c) Because the numbers are odd
  - d) Because it requires a lot of time and computational power

