

# Hashing and Digital Signatures

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**Seat 99 (Grade level 13)**

**Cyber Fundamentals**

1. The term cryptography comes from the Greek words kryptos, meaning \_\_\_\_\_, and graphein, meaning \_\_\_\_\_.

- A. a crypt, to graph
- B. studying, coordinate planes
- C. a secret, to study
- D. Caesar tries, to plot a graph

**Answer:** \_\_\_\_\_

2. What is the definition of cryptography?

- A. The process of assigning a code to something for the purposes of classification or identification
- B. The art or study of solving/cracking encryptions without be told the key
- C. The set of instructions forming a computer program
- D. The practice and study of writing or solving codes

**Answer:** \_\_\_\_\_

3. What is the name of the cipher where each letter is shifted?

- A. Caesar Cipher
- B. Transfer Cipher
- C. Shift Switch
- D. Oil and Vinegar

**Answer:** \_\_\_\_\_

4. The term cryptanalysis comes from the Greek words kryptos and analein, meaning \_\_\_\_\_.

- A. to analyze
- B. to loosen
- C. aniline
- D. to scramble

**Answer:** \_\_\_\_\_

5. Encrypt is to \_\_\_\_\_, as decrypt is to \_\_\_\_\_.

- A. scramble, jumble
- B. clarify, reduce
- C. convert, unconvert
- D. shorten, streamline

**Answer:** \_\_\_\_\_

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6. What is the definition of plaintext?
- A. Writing using boring language
  - B. Text written using Times New Roman font
  - C. A message to be encrypted
  - D. The encrypted data

Answer: \_\_\_\_\_

7. What is the definition of ciphertext?
- A. Writing using boring language
  - B. Text written using Times New Roman font
  - C. A message to be encrypted
  - D. The encrypted data

Answer: \_\_\_\_\_

8. Why are one-way keys given their name?
- A. There is no way to reverse the decryption
  - B. There is no way to reverse the encryption
  - C. There is no way to reverse the plaintext
  - D. There is no way to reverse the ciphertext

Answer: \_\_\_\_\_

9. What is the name of a common key exchange method?
- A. Diffie-Hellman
  - B. Dixie-Helmuth
  - C. Diddly-Heinz
  - D. Dipsy-Horton

Answer: \_\_\_\_\_

10. Which of the following are famous ciphers? (Select three)
- A. Pigpen Cipher
  - B. Krypton Shift
  - C. Enigma
  - D. Alpha Beta Cipher
  - E. Scyther Cipher
  - F. Balanced Oil and Vinegar

Answer: \_\_\_\_\_

11. In the world of cryptography, what is a hash?
- A. Humans Against Society and Homework
  - B. Hard and Soft Hackers
  - C. An encryption requiring both a private and a public key to be able to send information back and forth
  - D. A one-way encryption that converts any form of data into a unique string of text

Answer: \_\_\_\_\_

# Hashing and Digital Signatures

12. Which of the following is true regarding the data that is to be hashed?

- A. There is a limit to the size of data that can be hashed
- B. There is a minimum to the size of data that can be hashed
- C. Only certain types of data can be hashed
- D. None of the above

Answer: \_\_\_\_\_

13. Which of the following is NOT a use of hashing in cryptography?

- A. Digital signatures
- B. Cryptocurrency
- C. Pirating
- D. Storing passwords

Answer: \_\_\_\_\_

14. Which of the following is NOT a type of hash function?

- A. SHA
- B. MD5
- C. MI6
- D. None of the above

Answer: \_\_\_\_\_

15. What is the term given if two different passwords have the same hash?

- A. Conflict
- B. Vape Buddies
- C. Collision
- D. Trick question, two different passwords will never have the same hash.

Answer: \_\_\_\_\_

16. What is the name of the technique of adding random data to a password before hashing it and then storing the new value with the hash is called?

- A. Salting
- B. Freezing
- C. Appending
- D. Attaching

Answer: \_\_\_\_\_

17. An \_\_\_\_\_ is a random number used with a secret key to encrypt data.

- A. extension encryptilator
- B. initialization vector
- C. invisible generator
- D. encryption enhancer

Answer: \_\_\_\_\_