

Give your answer as a hex number, such as 19 means 00011001 (False:0,True:1)

1. Consider the Vigenere cipher over the lowercase English alphabet, where the key length 5, the size of the key space for this scheme is  $26^5$ .
2. Stream cipher can have perfect secrecy.
3.  $1/2^8$  is negligible.
4. Any secure PRP is also a secure PRF, if  $|x|$  is sufficiently large.
5. By CBC-mode encryption based on a block cipher with 128-bit key length and 128-bit block length to encrypt a 1024-bit message, the cipher text will be 1280-bit.
6. There is expansion for many time key modes for block cipher.
7. CTR is more secure than CBC.
8. SHA-1 is satisfied to against a birthday attack running in time  $2^{128}$ .