Cipher Vault

Here is the key of a encrypted message.
981514988131319771731018832035041667197063994283113961294311919823107457460427143066898321811678107934036721386938722356287974020835040585269469947802154 9

factor the key into its two prime factors and use them to compute the modular inverse of 848 modulo phi(n).

Step 1: Factoring the Key

Factorize the key into its two prime factors.

Step 2: Computing the Modular Inverse

Now use factored key into its two prime factors, we can use those factors to compute the value of phi(n) and then use that value to compute the modular inverse of 848 modulo phi(n). The formula for phi(n) is:
phi(n) = (p - 1) * (q - 1)

Using the values of p and q that was found in Step 1.

With the Extended Euclidean Algorithm to compute the modular inverse of 848 modulo phi(n).

Then you will get the private RSA Key, use the key to decript the ciphertext.